



Lowell High School

2020 - 2021

Course Catalog

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LOWELL HIGH SCHOOL

50 Fr. Morissette Boulevard
Lowell, Massachusetts 01852



MISSION STATEMENT

Commitment to excellence in everything we do: academics, activities, and citizenship.

Lowell High School provides a secure and cooperative environment where the emphasis is on mutual respect, curiosity, the free exchange of ideas, and the appreciation of education both as a process and a means of betterment.

We are a community...

- That values a curriculum incorporating the best practices of both traditional and contemporary instruction.
- That creates and supports an atmosphere promoting high expectations for student achievement.
- That strives to meet the needs of a variety of ethnic and language backgrounds, career interests, and learning capabilities and styles by providing a broad range of programmatic offerings.
- That believes student accomplishment is a shared responsibility of students, parents, staff, administration, school committee, and community.
- That provides all students the curriculum to meet school and state graduation requirements, and assesses learning continuously in a variety of ways including mandatory state testing.

ADMINISTRATION

Michael Fiato	Head of School
Petra Farias	Coordinator of Student Support Services
Roxane Howe.....	Discipline & Operations Specialist
David Lezenski.....	Athletic Director
Jill Rothschild	Director of Freshman Academy
Deidre Haley	House Dean, B-House
Maria Vejar	House Dean, C-House
Timothy O'Keefe	House Dean, D-House
David Slattery	House Dean, E-House

DEPARTMENT HEADS

Jessica Daviso	Fine Arts
Allyson Carbone.....	Special Education
Sgt. David Smith	Aerospace Science (Air Force Junior ROTC)
David Lezenski	Physical Education
Robert DeLossa	Social Studies
Elizabeth Often.....	Mathematics
Stephen Gervais, Jr.	English Language Learners, World Languages
Roxane Howe.....	Business, Culinary & Foods
Suzanne Keefe.....	English
Stephanie Selvaggio	Science, Health

GUIDANCE & HOUSE SERVICES

FRESHMAN ACADEMY ROOM 800

DIRECTOR	978 275-6301
COUNSELORS	978 440-3707
SCHEDULER	978 441-3707
CLERK	978 441-3704

B-HOUSE ROOM 120

HOUSE DEAN	978 446-7333
COUNSELOR A-L	978 937-7672
COUNSELOR M-Z	978 937-7471
SCHEDULER	978 446-7324
HOUSE CLERK	978 937-8906

C-HOUSE ROOM 512

HOUSE DEAN	978 937-8908
COUNSELOR A-L	978-441-3723
COUNSELOR M-Z	978 446-7338
SCHEDULER	978 441-7348
HOUSE CLERK	978 937-8907

D-HOUSE ROOM 640

HOUSE DEAN	978 446-7333
COUNSELOR A-L	978 937-7672
COUNSELOR M-Z	978 937-7471
SCHEDULER	978 446-7324
HOUSE CLERK	978 937-8906

E-HOUSE ROOM 301

HOUSE DEAN	978 937-8908
COUNSELOR A-L	978 441-3723
COUNSELOR M-Z	978 446-7338
SCHEDULER	978 441-7348
HOUSE CLERK	978 937-8907

INTRODUCTION

The information in this booklet is designed to familiarize students and parents with the school courses and programs, scholastic requirements, policies, facilities, personnel and general information. We hope this catalog will answer questions you have regarding these areas and will provide you with sufficient information to make wise decisions regarding courses, programs, and opportunities. We urge you to carefully read the information under "Scholastic Progress and Course Selection", as it specifies the requirements for scholastic progress and graduation.

If you have any questions or concerns, please feel free to contact an administrator. We encourage you to inform us of any special situations or circumstances, and come to us for assistance when you need it. We cannot help with problems unless we are aware of them. We hope you have a pleasant and rewarding school year.

ACCREDITATION STATEMENT

The New England Association of Schools and Colleges (NEASC) is the accreditation agency for Lowell High School. NEASC is a non-governmental, nationally recognized organization whose affiliated institutions include elementary schools through collegiate institutions.

Accreditation of an institution by the New England Association indicates that it meets or exceeds criteria for the assessment of institutional quality periodically applied through a peer group process. An accredited school is one which has available the necessary resources to achieve its stated purposes through appropriate educational programs, is substantially doing so, and gives reasonable evidence that it will continue to do so in the foreseeable future. Institutional integrity is also addressed through accreditation.

Accreditation by the New England Association is not partial but applies to the institution as a whole. As such, it is not a guarantee of the quality of every course or program offered, or the competence of individual graduates. Rather, it provides reasonable assurance about the quality of opportunities available to students who attend and graduate from the institution.

Inquiries regarding the status of an institution's accreditation by the New England Association should be directed to the administrative staff of the school. Individuals may also contact the Association directly:

NEW ENGLAND ASSOCIATION OF SCHOOLS AND COLLEGES
209 BURLINGTON ROAD
BEDFORD, MA 01730-1433
(781) 271- 0022

COURSE INFORMATION

COURSE LEVELS

These are general criteria for leveling used by each department. Levels differ in coverage and intensity in order to meet the ability, achievement, and needs of the student.

There are five different levels of courses at Lowell High School:

- A - Advanced
- HH - High Honors
- H – Honors
- C – College
- Non-Weighted

The level at which a course is offered will affect the class rank achieved by the student, but not placement on the Honor Roll. The student is expected to participate in course work at the highest level of her/his ability. It is essential for you to read about each course in the “Course Description” in each academic department listing of this catalog so that you understand not only what a course is all about, but also what levels are offered for each course.

Advanced (Advanced Placement and Dual Enrollment) level courses are the most intense academic level. They are the maximum challenge for the most intellectually curious students.

High Honor level courses are the highest level in intellectual challenge when Advanced Placement is not available. Courses in this level are very demanding, competitive, and specifically designed for the highly motivated student who has an outstanding ability and anticipates attendance at a four-year college. Courses are designed to prepare the student for future involvement in college studies.

Honors level courses present intellectual challenges and require strong student performance. Courses are designed to prepare students for success at four-year colleges and universities. Students must be well motivated and be prepared for the demands of the curriculum in each discipline.

College level courses require a moderate to extensive intellectual development and outside preparation by the student. These courses are designed to prepare the student to succeed in four-year colleges and two-year colleges. Reading levels will be above the nationally normed median. Students are assumed to be self-motivated.

Non-Weighted courses are for students of all ability levels. These courses are heterogeneously grouped.

PREREQUISITES FOR CONTINUING COURSES

The following guidelines have been adopted by all departments and should be utilized by students when selecting continuing courses.

Cumulative Grade Requirements to Select the Following Year of a Continuing Course:

- COLLEGE to HONORS 85
- HONORS to HONORS 70
- HONORS to HIGH HONORS 90
- HONORS to AP 95
- HIGH HONORS to AP 90
- AP to AP 80

Note: A passing grade is needed to continue second semester of a continuous course.

GUIDELINES FOR SELECTING COURSES

Planning an educational program is an ongoing process and should involve as many people as possible, including the student, parents, teachers, and guidance counselors.

1. Meet the minimum requirements to be promoted to each grade level. Obtain at least the minimum credits needed to graduate. Remember that students must earn twenty (20) credits in the senior year.
2. Fulfill the requirements of an Educational Proficiency Plan (EPP) if you are in the Needs Improvement scaled score between 220 and 239 on the English Language Arts and Mathematics grade 10 MCAS tests.
3. Consider your future plans. Select courses that are related to the field you may wish to pursue. You will want to select courses that meet the requirements of a variety of colleges or universities you may wish to attend. Work with your teachers to fill out your course selection chart.
4. Gather Information. A major part of the process of course selection involves the gathering of information. Classroom teachers and guidance counselors are available resources at this stage.

Choose courses that will accomplish the following:

- a. Satisfy credit requirements.
 - b. Build up academic skills needed for future plans.
 - c. Explore new, unfamiliar areas and/or develop, in depth, an area of particular interest.
 - d. Develop a marketable skill. A marketable skill is particularly essential if you plan to work directly after graduation.
 - e. Meet the College Admission Requirements outlined on the next page.
5. Consider your interests and abilities.
 6. Explore the possibility of enrolling in a pathway.
 7. Discuss your course selection with your parents, teachers, and counselor.

8. Read the Course of Studies Catalog carefully and listen attentively to scheduling information provided by the Guidance Department.
9. Review your transcript periodically
10. Be aware of course prerequisites, and strongly consider teacher recommendations.
11. Remember that the in-depth study of a particular subject is valuable. Four years of a subject are usually better than three, and three are better than two.
12. Be sure that you have a strong, challenging program every year to be ready to cope with college or the world of work.

The classroom teacher has in-depth knowledge of the content of various courses taught within her/his department. In addition she/he is usually aware of the level of expectation within each course. Knowing you as a student and the kind of work of which you are capable, your teacher can make valid recommendations as to which courses to take within the department.

The guidance counselor has a broad overview of the entire curriculum. Counselors have a sense of the student's performance and ability level. Your counselor is knowledgeable of the courses necessary to fulfill graduation and college requirements. Your guidance counselor also is able to provide advice about the kind of program and courses, which will be helpful as you prepare yourself to pursue post-high school plans. A student/parent conference can be arranged by contacting the guidance counselor. Please understand that not all student choices can be accommodated due to scheduling constraints and school placement policies.

DEPARTMENT COURSES

ENGLISH

The Lowell High School English Department is committed to supporting and encouraging students to become independent, life-long learners. All English courses are designed to build skills in effective reading, writing, speaking and listening. Through a sequential program of core courses, students are supported to read critically from a wide range of literary and informational texts, write effectively for a variety of audiences and purposes, and speak effectively in informal and formal situations. We recognize that mastering these complex communication skills is essential for successfully meeting the challenges of the 21st Century.

In accordance with state mandates, a Lowell High School student must earn 20 credits in sequential, core English courses to qualify for a diploma. The Education Reform Law also requires students to pass the state's Grade 10 MCAS tests as a condition for receiving a high school diploma. English Language Arts is one of the mandated MCAS areas. Courses offered in the English Department are aligned with and fulfill the content requirements of the Massachusetts State Curriculum Frameworks.

Summer Literacy Program: Participation in Lowell High School's summer literacy program is required for all students. Some courses have additional summer work expectations. Information about summer work can be found on the LHS website.

ENGLISH CORE COURSES, Grades 9 -11

0131/0132	English 1 - College	9 (FA)	2.5/2.5
0141/0142	English 1 - Honors	9 (FA)	2.5/2.5
0151/0152	English 1- High Honors	9 (FA)	2.5/2.5
0121/0122	English 1 - College	9R, 10, 11, 12	2.5/2.5
0231/0232	English 2 - College	10	2.5/2.5
0241/0242	English 2 - Honors	10	2.5/2.5
0251/0252	English 2 - High Honors	10	2.5/2.5
0331/0332	English 3 - College	11	2.5/2.5
0341/0342	English 3 - Honors	11	2.5/2.5
0351/0352	English 3 - American Studies - High Honors	11	2.5/2.5

ENGLISH CORE COURSES, Grade 12

0431/0432	English 4 - College	12	2.5/2.5
0441/0442	British Traditions - Honors	12	2.5/2.5
0461/0462	Literature and Composition (AP)* - Advanced	12	2.5/2.5
0463/0464	English Composition - (DE-MCC)* - Advanced	12	2.5/2.5
0466/0467	Reading and Writing in the 21 st Century - College	11, 12	2.5
0522	Other Worlds, Whodunits and Westerns - Honors	11, 12	2.5
0524	Public Speaking, Persuasion, and Presentations - Honors	11, 12	2.5
0526	Short Fiction and Poetry - Honors	11, 12	2.5
0528/0529	Sports Literature and Writing - Honors	11, 12	2.5/2.5
0531/0532	Creative Writing A/B- College	11, 12	2.5/2.5
0533/0534	Creative Writing A/B- Honors	11, 12	2.5/2.5
0538	Expository Writing - Honors	11, 12	2.5
0552/0553	Race and Ethnicity in Literature A/B - Honors	11, 12	2.5/2.5
0556/0557	Literature of The Holocaust A/B - Honors	11, 12	2.5/2.5
0564/0565	The Wonder of Will A/B - Honors	11, 12	2.5/2.5
0567	Gender in Literature - Honors	11, 12	2.5

*Must be taken as a full year course.

ENGLISH ELECTIVE COURSES, GRADES 11 AND 12 – One Semester

0522	Other Worlds, Whodunits and Westerns - Honors	11, 12	2.5
0524	Public Speaking, Persuasion, and Presentations - Honors	11, 12	2.5
0526	Short Fiction and Poetry - Honors	11, 12	2.5
0538	Expository Writing - Honors	11, 12	2.5
0567	Gender in Literature - Honors	11, 12	2.5

ENGLISH ELECTIVE COURSES, GRADES 11 AND 12 – Full Year

0528/0529	Sports Literature and Writing - Honors	11, 12	2.5/2.5
0531/0532	Creative Writing A/B- College	11, 12	2.5/2.5
0533/0534	Creative Writing A/B- Honors	11, 12	2.5/2.5
0552/0553	Race and Ethnicity in Literature A/B - Honors	11, 12	2.5/2.5
0556/0557	Literature of The Holocaust - Honors	11, 12	2.5/2.5
0564/0565	The Wonder of Will - Honors	11, 12	2.5

ENGLISH SUPPORT & OTHER ELECTIVE COURSES

0023/0024	Balanced Literacy (9) - College	9 (FA)	2.5/2.5
0025/0026	Balanced Literacy (10) - College	10	2.5/2.5
0061	SAT Critical Reading/Writing Prep - Honors	11, 12	2.5
9201/9202	Freshman Seminar – Non-Weighted	9 (FA)	2.5/2.5
9401/9402	Upward Bound - College	9, 10, 11	2.5/2.5

0121/0122	ENGLISH 1 - College	9R, 10, 11, 12	2.5/2.5 Cr.
<p>English 1 - College is designed for repeating Freshman or upper class students who need to fulfill credit for English 1. This course focuses on the essential elements of communication -- reading comprehension, clarity in writing, active listening, and confidence in speaking. The course uses a wide-range of text types and genres. Students write for a variety of purposes, including literary analysis, creative expression and argument.</p>			
0231/0232	ENGLISH 2 - College	10	2.5/2.5 Cr.
<p>English 2 - College continues to focus on strengthening essential literacy skills. Emphasis is placed on reading comprehension, literary analysis and the writing process. Readings include various genres unified by theme and include essays, poems, short stories, plays and novels. Through the close study of these texts and the practice of the writing process, students will develop increasingly sophisticated tools for constructing and conveying meaning. Students complete a required research-based project, through which they learn to generate their own thesis statements, gather, evaluate and organize evidence, and revise multiple drafts of their work. This course places a strong emphasis on MCAS preparation, as students take this exam for the first time in the spring of their sophomore year. Explicit instruction in various test taking strategies, including multiple choice and MCAS style essay writing, is included in the scope of this course.</p>			
0241/0242	ENGLISH 2 - Honors	10	2.5/2.5 Cr.
<p>English 2 - Honors is for students who have demonstrated strong motivation, ability and achievement in English 1. English 2 includes in-depth exploration of various literary genres tied to a universal theme. Students are engaged in increasingly sophisticated close reading and critical analysis of texts. Students will learn to use the writing process to write effective literary analyses, with particular attention paid to style, diction, and sentence variety. Through a required research-based project, students learn to generate their own thesis statements, gather, evaluate and organize evidence, and revise multiple drafts of their work. While the scope of the curriculum is similar to English 0231/0232, this course differs in the pace and the expectation for independent work. Preparation for the ELA MCAS is included in the scope of this course. <i>PREREQUISITE: Successful completion of English 1 - Honors with a minimum grade of 70 or successful completion of English 1 - College with a minimum grade of 85.</i></p>			
0251/0252	ENGLISH 2 - High Honors	10	2.5/2.5 Cr.
<p>English 2 - High Honors is for students who have demonstrated exceptional ability and achievement in reading and writing in English 1. Students will engage in reading a wide range of texts, including those well above grade level. Students will continue to refine their writing skills as they practice critical analysis, with special attention paid to increasingly sophisticated style, diction, and sentence structure. This course offers an accelerated pace and demands extensive outside reading and a research-based project. Students selecting this course are expected to self-initiate, self-direct and self-evaluate as writers, engage independently with complex texts, and be active participants in class discussions. The overall goal of this course is to develop higher-level thinking skills that characterize independent learners. Preparation for the ELA MCAS is included in the scope of this course. <i>PREREQUISITE: Successful completion of English 1 - High Honors with a minimum grade of 70 or English 1 - Honors with a minimum grade of 90 and the recommendation of the English I teacher. In addition to the completion of the LHS summer literacy assignment, this course requires the completion of an extensive summer reading and writing project that is due at the first class meeting of the year. Failure to complete the summer assignment will result in removal from the course. Students who do not meet these prerequisites must obtain Department Head approval.</i></p>			

0331/0332 ENGLISH 3 - College 11 2.5/2.5 Cr.

English 3 - College further enhances reading, writing and thinking skills in the context of American Literature. Students will study selected works by notable American authors as a means of exploring the American experience through diverse voices and over time. Continued emphasis is placed on the writing process, with special attention paid to the development of logical argument and the use of persuasive techniques. Emphasis is placed on assisting students to attain increasing levels of competence in mechanics, content, organization and style in various types of writing situations. Students will complete a research-based project that demonstrates effective evaluation of sources, careful analysis of information, clear topic development and increasingly sophisticated use of diction and style.

0341/0342 ENGLISH 3 - Honors 11 2.5/2.5 Cr.

English 3 - Honors is for students who have demonstrated strong motivation, ability and achievement in English 2. English 3 - Honors introduces the student to American Literature by tracing the development of cultural concepts and patterns in writers from the Colonial Period forward. This course explores the cultural realities, literary movements and writers' techniques that shaped the emerging American identity. There is strong emphasis on enhancing the skills of critical analysis, both oral and written, and tracing the evolution of concepts in American writing. Students are expected to contribute to the oral dialogue of the class, write original analytical and creative papers, and to read extensively outside of class. Students will complete a research-based project that demonstrates effective evaluation of sources, careful analysis of information, clear topic development and increasingly sophisticated use of diction and style. **PREREQUISITE: Successful completion of English 2 - Honors with a minimum grade of 70 or successful completion of English 2 - College with a minimum grade of 85.**

0351/0352 ENGLISH 3 - American Studies - High Honors 11 2.5/2.5 Cr.

English 3 - American Studies - High Honors is for self-motivated students who have demonstrated exceptional aptitude, interest and achievement in reading and writing. Students are exposed to a range of major American writers, movements and literary works. Considerable attention is paid to how these various perspectives enrich student understanding of the terms "American Identity" and "The American Experience." Through intensive study of major literary works, students will consider each writer's purpose, audience, rhetorical strategies and tone, examining how authors employ the elements of language to achieve their intended purposes. Students practice writing in a variety of modes, including narration, analysis and argumentation. A strong performance during Semester 1 offers students an advantage when applying to the AP English Literature Course for senior year. **PREREQUISITES: Successful completion of English 2 - High Honors with a minimum grade of 70 or English 2 - Honors with a minimum grade of 90 and the recommendation of the sophomore English teacher. In addition to the completion of the LHS summer literacy assignment, this course requires the completion of an extensive summer reading and writing project that is due at the first class meeting of the year. Failure to complete the summer assignment will result in removal from the course. Students who do not meet these prerequisites must obtain Department Head approval.**

ENGLISH CORE CLASSES, Grade 12 - Full Year Courses

Grade 12 students are able to select from a variety of courses to meet the English graduation requirement. Students must enroll in a minimum of one English course per semester, but are able to take additional ELA courses for elective credit. Grade 11 students may enroll in these classes for elective credit only.

A student must meet the following prerequisites to enroll in **Honors** level Grade 12 courses:

- Current Grade 11 students* - a 70 or above in honors English 3
- an 80 or above in college English 3
- Current Grade 10 students* - a 70 or above in high honors English 2
- an 80 or above in honors English 2
- a 90 or above in college English 2

Some courses have more specific prerequisites listed. Students who do not meet the prerequisites must obtain Department Head approval to enroll.

0431/0432 ENGLISH 4 - College 12 2.5/2.5 Cr.

This survey course introduces students to British Literature, and subsequently the shift to literary works from other countries, by tracing the evolution of literature from the Anglo-Saxon Period forward. Reading and writing assignments support the practice of interpretation, analysis and synthesis of ideas. In conjunction with the study and analysis of literature, emphasis is placed on developing and sharpening the skills needed to write with increased sophistication of content, form and diction. Students will complete a research-based project that demonstrates effective evaluation of sources, careful analysis of information, clear topic development and increasingly sophisticated use of diction and style.

0441/0442 BRITISH TRADITIONS - Honors 12 2.5/2.5 Cr.

This survey course challenges students through an intensive critical analysis of representative masterpieces of British Literature from the Anglo- Saxon Period forward, students will examine the intellectual, philosophical and social forces that have shaped English society and its literary works. A variety of World Literature selections complement this study. This challenging course will place an emphasis on improving the skills of interpretation and critical analysis of readings. Students are expected to contribute to the oral dialogue of the class, write original analytical and creative papers, and to read extensively outside of class. Particular attention is paid to writing mastery, improving the content, form, variety and style of student writing.

0461/0462 LITERATURE AND COMPOSITION (AP) - Advanced 12**2.5/2.5 Cr.**

English 4 AP is designed to give self-motivated students a college experience in the areas of literature and composition prior to their graduation from high school. This course is demanding in the amount and variety of assigned readings and the expectation for close literary analysis. Through intensive study of major literary works, students sharpen their ability to think critically and communicate effectively. Writing assignments emphasize the precise use of language and the effective selection and organization of materials for critical responses. For the qualified student, this course offers the unique advantage of allowing him or her to apply a successful grade on the Advanced Placement Test of the College Entrance Board toward the freshman English requirement at most colleges. The Advanced Placement Test, given in May of the senior year, is required of every student in 0461, and a fee is charged for the test. The student selecting this course must submit a writing sample to the instructor for approval. ***PREREQUISITES: Successful completion of English 3 - American Studies with a minimum grade of 80 or successful completion of English 3 - Honors with a minimum grade of 90 and the recommendation of the junior English teacher. In addition to the completion of the LHS summer literacy assignment, this course requires the completion of an extensive summer reading and writing project that is due at the first class meeting of the year. Failure to complete the summer assignment will result in removal from the course. Students who do not meet these prerequisites must obtain Department Head approval.***

0463/0464 ENGLISH COMPOSITION (Dual Enrollment - MCC) - Advanced**12****2.5/2.5 Cr.**

English Composition focuses on developing students' academic writing, close reading, and critical thinking skills. Using a writing process that includes pre-writing, drafting, instructor and peer feedback, and revision, students will produce written essays with arguable thesis statements and appropriate use of standard English. Students will produce a total of 18-24 pages of formal polished writing in three or more source-based essays.

During the second semester, students will continue building on skills learned in English Composition I, students will sharpen their academic writing, close reading, and critical thinking skills, as well as develop research skills. Using a writing process that includes pre-writing, drafting, instructor and peer feedback, and revision, students will produce thesis-driven, evidence-based essays that employ appropriate rhetorical strategies. In English Composition 2, students will be introduced to at least two documentation styles and will produce a total of 18-24 pages of polished formal writing in three or more source-based essays. This course is offered in partnership with Middlesex Community College. Students who successfully complete this course will receive both LHS English graduation credit and MCC credit.. [MCC course equivalent English Composition 1 and English Composition 2: An Introduction to Literature (3 Credits each)] ***PREREQUISITES: Successful completion of English 3A and 3B (with a minimum grade of 80 in high honors, 85 in honors and 90 in college level course); a minimum SAT or PSAT score of 480 in Evidenced Based Reading and Writing; an overall LHS GPA of 2.5 or better; the recommendation of the student's current ELA teacher. A grade of 70 or better in 0463 is required to continue in 0464. Students must complete an extensive reading and writing project over the summer that is due at the first class meeting of the year. Failure to complete the summer assignment will result in removal from the course.***

0564/0565 THE WONDER OF WILL - Honors 12 2.5/2.5 Cr.

The Wonder of Will explores how America made William Shakespeare, a British poet and playwright born more than 400 years ago, our own. The course examines the Bard's impact on American life: movies, music, ads, product packaging, politics, education, and ethnic and racial identity. Students will read and respond to a selection of Shakespeare's plays, sonnets, and related works.

0567 GENDER IN LITERATURE - Honors 12 2.5 Cr.

Gender and Identity looks at the phenomenon of gender from multiple aspects: psychology, sociology, anthropology, psychology, philosophy, and religion. Starting with ancient myths and views around gender, the course will progress to modern ideas of gender as a construct, and question the connection between mind, body, and genetics. The course will include literature, music, religious texts, folklore, and theoretical readings that reflect differing attitudes toward what gender is and how different genders should contribute to society. Major changes in American attitudes toward gender after WWII will be examined and compared with world trends. Each student will be expected to research and write a major paper at the end of the course, and present her or his ideas through digital media.

ENGLISH ELECTIVE COURSES, GRADES 11 AND 12 – One Semester

The following courses satisfy an English graduation requirement for Grade 12 students; students must be enrolled in a minimum of one ELA core course each semester. Grade 11 students may enroll in these courses for elective credit in addition to their core Grade 11 course. Prerequisites are the same as for full-year courses -- see above.

0522 OTHER WORLDS, WHODUNNITS, AND WESTERNS - Honors 11, 12 2.5 Cr.

*Other Worlds, Whodunits, and Westerns explores the literary worlds of Sci-Fi, Mystery, and Western-inspired novels while satisfying an English graduation requirement. Students will engage in a broad range of active reading and writing activities in this course, while examining classic and contemporary works from the core genres such as *The Martian*, *Dracula*, and *Murder on the Orient Express* as well as spinoffs such as *Spy* and *Noir* stories.*

0524 PUBLIC SPEAKING, PERSUASION, AND PRESENTATIONS - Honors 11, 12 2.5 Cr.

Public Speaking, Persuasion, and Presentations analyzes a variety of speeches, focusing on the power of persuasion. Emphasis will be placed on modern technology as a tool for research, preparation and creation of persuasive, informative and narrative speeches. Students will also learn and practice the speaking, listening and interpersonal skills necessary to be effective communicators in academic settings, the workplace and the community.

0526 SHORT FICTION AND POETRY - Honors 11, 12 2.5 Cr.

Short Fiction and Poetry explores how short fiction and poetry offer powerful lessons about our common human experiences. Students will read a wide variety of short stories and poetry to improve close reading skills, and strengthen analysis of text, while building an understanding of universal truths. Students will develop their own voices as writers, creating and sharing their work through a variety of communication platforms.

0538 **EXPOSITORY WRITING – Honors** **11, 12** **2.5 Cr.**

Expository Writing teaches practical and effective strategies for preparing for the demands of college writing. Students will learn about the conventions of writing in a range of academic disciplines and in different types of papers, such as close readings of texts, reflective responses, and research-based arguments. Through intensive in-class writing, and discussion of thought-provoking articles, students will develop their critical thinking skills and learn to communicate their ideas clearly and persuasively. In addition to preparing for writing papers in college, students will have the opportunity to work on producing a draft of their college admission essay.

0567 **GENDER IN LITERATURE - Honors** **11, 12** **2.5 Cr.**

Gender and Identity looks at the phenomenon of gender from multiple aspects: psychology, sociology, anthropology, psychology, philosophy, and religion. Starting with ancient myths and views around gender, the course will progress to modern ideas of gender as a construct, and question the connection between mind, body, and genetics. The course will include literature, music, religious texts, folklore, and theoretical readings that reflect differing attitudes toward what gender is and how different genders should contribute to society. Major changes in American attitudes toward gender after WWII will be examined and compared with world trends. Each student will be expected to research and write a major paper at the end of the course, and present her or his ideas through digital media.

ENGLISH ELECTIVE COURSES, GRADES 11 AND 12 – Full Year

0528/0529 **SPORTS LITERATURE AND WRITING - Honors** **12** **2.5/2.5 Cr.**

Sports Literature and Writing explores literature that reflects the unique relationship between sports and society. Students will read and respond to a wide range of literary and informational texts that pay special attention to universal sports-related themes such as gender equity, racism, perseverance, determination, and integrity. Completion of the Grade 12 summer reading program is required.

0531/0532 **CREATIVE WRITING - College** **11, 12** **2.5/2.5 Cr.**

Creative Writing provides students with experience in developing many different forms of writing, including drama, poetry, fiction, and essays. The inter-relationship of writing and reading is emphasized throughout the course. By examining the work of professional writers, students will gain valuable insights into the art and craft of writing. All students in this course will be expected to share their work through a variety of publishing platforms.

0533/0534 **CREATIVE WRITING - Honors** **11, 12** **2.5/2.5 Cr.**

Creative Writing provides students with experience in developing many different forms of writing, including drama, poetry, fiction, and essays. The inter-relationship of writing and reading is emphasized throughout the course. By examining the work of professional writers, students will gain valuable insights into the art and craft of writing. All students in this course will be expected to share their work through a variety of publishing platforms.

0552/0553 RACE AND ETHNICITY IN LITERATURE - Honors 12 2.5/2.5 Cr.

Race and Ethnicity in Literature explores issues related to race and ethnicity in American society. These issues include: the meaning of race and ethnicity; the extent of racial and ethnic inequality in the U.S., the nature of racism, discrimination, and racial stereotyping; and the development of racial identity. Students will engage with a wide range of genres aimed at supporting students to think critically about their own racial and ethnic identity, and to understand how this identity reflects and shapes life experiences.

0556/0557 LITERATURE OF THE HOLOCAUST - Honors 12 2.5/2.5 Cr.

Literature of the Holocaust explores literature with the Holocaust as its central theme. Students will read and respond to a variety of genres including fiction, nonfiction, poetry, the graphic novel, drama, photography, and film. Students will engage in discussions, writing assignments and creative projects related to the readings. Topics covered include: bearing witness and survivor testimony, stories of resistance, stories of rescue and heroism, the second generation, and response and reflection to catastrophe with a strong emphasis on survivor perseverance.

0564/0565 THE WONDER OF WILL - Honors 12 2.5/2.5 Cr.

The Wonder of Will explores how America made William Shakespeare, a British poet and playwright born more than 400 years ago, our own. The course examines the Bard's impact on American life: movies, music, ads, product packaging, politics, education, and ethnic and racial identity. Students will read and respond to a selection of Shakespeare's plays, sonnets, and related works.

ENGLISH SUPPORT COURSES

The following classes do not satisfy English graduation requirements and are taken as elective courses only.

9201/9202 FRESHMAN SEMINAR - Non-Weighted 9 (FA) 2.5/2.5 Cr.

Freshman Seminar provides students with an opportunity for "self-study". Throughout the year, students will explore career interests, establish goals, and explore possibilities for post-secondary pathways. This introductory course infuses a PBIS framework and develops students' organizational skills and study habits in order for them to navigate through their Freshman Year successfully. In addition, Freshman Seminar focuses on enhancing student literacy: functional literacy, digital literacy, and financial literacy. ***This course does not satisfy an ELA graduation requirement.***

0023/0024 BALANCED LITERACY (9) - College 9 (FA) 2.5/2.5 Cr.

Balanced Literacy is designed to support students who are reading below grade level. The program directly addresses individual student needs through adaptive instructional software, high-interest fiction and non-fiction, and direct instruction in reading and writing skills. This course is designed to be a complement to English 1.

0025/0026 BALANCED LITERACY (10) - College 10 2.5/2.5 Cr.

Balanced Literacy course is designed to support students who are reading below grade level. The program directly addresses individual student needs through adaptive instructional software, high-interest fiction and non-fiction, and direct instruction in reading and writing skills.

0061 **SAT CRITICAL READING/WRITING PREP - Honors** **11, 12** **2.5 Cr.**

SAT Critical Reading/Writing Prep provides a strong preparation and review for the SAT Verbal/Writing test given at intervals throughout the school year. The course will provide diagnostic testing and intensive practical drill on test-taking techniques and it will place a strong emphasis on writing strategies for the essay portion of the exam. In addition, the course will also concentrate on accelerated vocabulary development. Throughout the course, emphasis will be on the ability to read and reason quickly, intelligently and effectively. ***This course does not satisfy an ELA graduation requirement.***

9401/9402 **UPWARD BOUND - College** **9, 10, 11** **2.5/2.5 Cr.**

Middlesex Community College provides services for low-income and/or first generation American citizens and/or permanent resident students who seek to attend college. The goal is to generate the skills and motivation students will need to succeed in higher education. It is an intensive program of instruction and support developed around academic course requirements. Students will apply basic skills that they learn in other academic courses in an interdisciplinary, theme-based curriculum consisting of hands-on activities and group projects. The course will also include the following academic success workshops: critical and creative thinking, problem solving, time management, study skills, career and college planning, MCAS, PSAT, SAT, CPT prep. Students will be expected to participate in a six-week summer program at Middlesex Community College. Students are typically enrolled in fall and spring until graduation. ***PREREQUISITE: Open to qualified college bound freshmen, sophomores, and juniors who are low-income and/or first generation in family who desire to attend college. NOTE: Upward Bound may be substituted for PE for all 9th Grade Upward Bound students. Upward Bound students in Grades 10-12 with a critical course conflict can request a PE waiver directly from the Head of School.***

SOCIAL STUDIES

The Social Studies Department offers a four-year course of study in history and the social sciences. The content, reading materials, instructional activities, and assessments are designed to promote higher-level analytic, evaluative, and communication skills; to prepare students for college and career; and, to nurture active, productive, and responsible civic engagement. The graduation requirement and all of the history and social science courses at Lowell High School adhere to relevant requirements and standards set by Commonwealth of Massachusetts law, the 2018 Massachusetts Social Studies Curriculum Frameworks, requirements set by the Lowell School Committee, and the Common Core State Standards.

Each student must pass ten (10) credits in U.S. History and Civics to graduate from LHS. All students must take SOC.4226 *American Civics Past & Present* as part of the ten (10) credit requirement; the only exception being those enrolled in AP US History. AP US History students, however, may take SOC.4226 as an optional elective. Other courses in the U.S. History Core and Elective Courses section below fulfill the rest of the U.S. History graduation requirement. Some Social Studies department courses are also linked with the Civics, Citizenship, and Communities Pathway, and the Education Pathway. Most elective courses have prerequisites that are listed in their course description. *Exceptions to these prerequisites require written permission from the Social Studies Department Chair.*

WORLD HISTORY COURSES

4121	Essentials of World History - College	9 (FA)	2.5
4122	Topics in World History - College	9 (FA)	2.5
4141/4142	Survey of World History A & B - Honors	9 (FA)	2.5/2.5
4181/4182	Survey of World History A & B - High Honors	9 (FA), (LL)	2.5/2.5

U.S. HISTORY CORE AND ELECTIVE COURSES

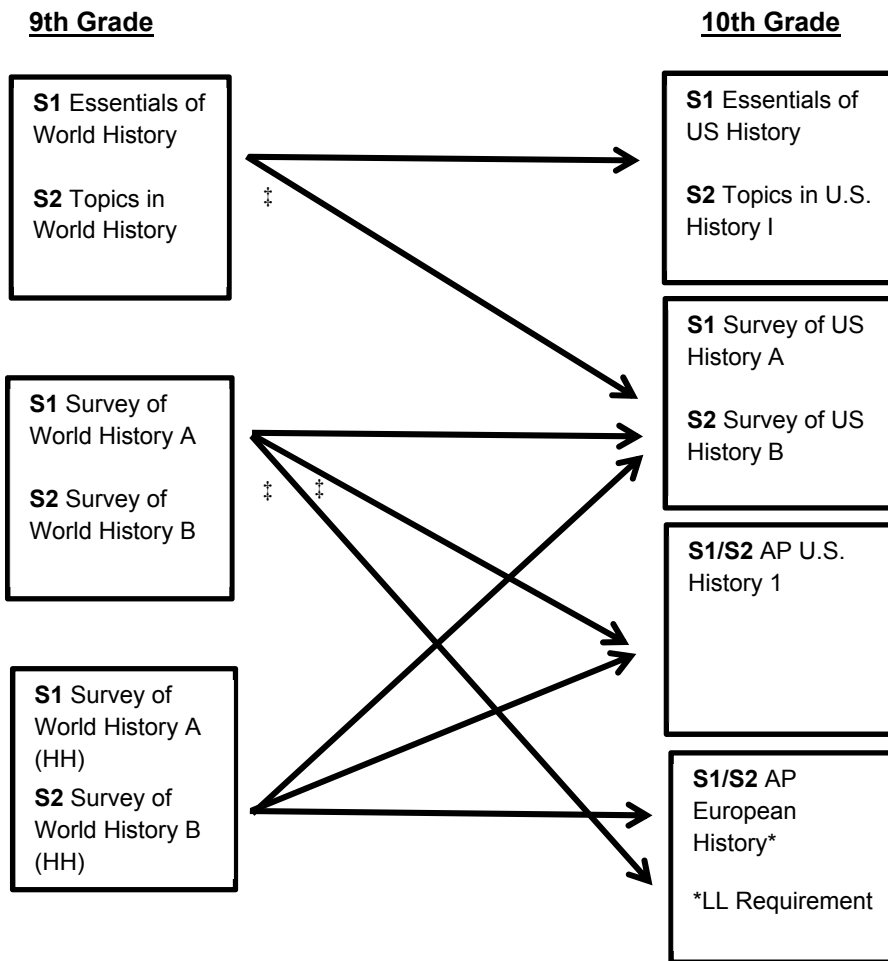
4221	Essentials of U.S. History - College	10, 11	2.5
4222	Topics in U.S. History I - College	10, 11	2.5
4223/4224	Survey of U.S. History A & B - Honors	10, 11, 12	2.5/2.5
4225	Topics in U.S. History II - College	11, 12	2.5
4226	American Civics Past & Present - Honors	11, 12	2.5
4261/4262	U.S. History 1 AP - Advanced	10, 11	2.5/2.5
4361/4362	U.S. History 2 AP - Advanced	11, 12	2.5/2.5
4371	Education in America - Honors	11, 12	2.5
4380	America & the World Wars - Honors	11, 12	2.5
4383	Civil Rights & Jim Crow - Honors	11, 12	2.5
4384	The Civil War - Honors	11, 12	2.5
4385	The Cold War & Global War on Terror - Honors	11, 12	2.5
4563	Lowell: Immigration & Industrialization - Honors	11, 12	2.5
4570	Seminar on American Diversity - Honors	11, 12	2.5

SOCIAL SCIENCES ELECTIVES

4415	Intro to Economics & Finance - Honors	11, 12	2.5
4431	Intro to Sociology - Honors	11, 12	2.5
4435	Intro to Sociology - Dual Enrollment - Advanced	11, 12	2.5
4440	Psychology & American Culture - Honors	11, 12	2.5
4443	Intro to Psychology - Honors	11, 12	2.5
4445/4446	Psychology AP - Advanced	11, 12	2.5/2.5
4447	Intro to Psychology - Dual Enrollment - Advanced	11, 12	2.5
4451	Childhood & Adolescent Development - Honors	11, 12	2.5
4473	Philosophy and American Culture - Honors	11, 12	2.5
4513	Facing History & Ourselves - Honors	11, 12	2.5
4524	Cambodia: Culture & Conflict - Honors	11, 12	2.5
4541	Intro to Political Science - Honors	11, 12	2.5
4551/4552	Interdisciplinary Global Studies A & B - Honors	11, 12	2.5/2.5
4561/4562	European History AP- Advanced	10, 11, 12	2.5/2.5
4571	Internship in the CCC Pathway - Honors	12	2.5
4572	Internship in the Education Pathway - Honors	12	2.5
4661/4662	U.S. Government & Politics AP - Advanced	11, 12	2.5/2.5

- **2020-2021 Social Studies Department Required Progressions: 9th to 10th Grade**

Possible progressions paths (dependent on teacher recommendation)

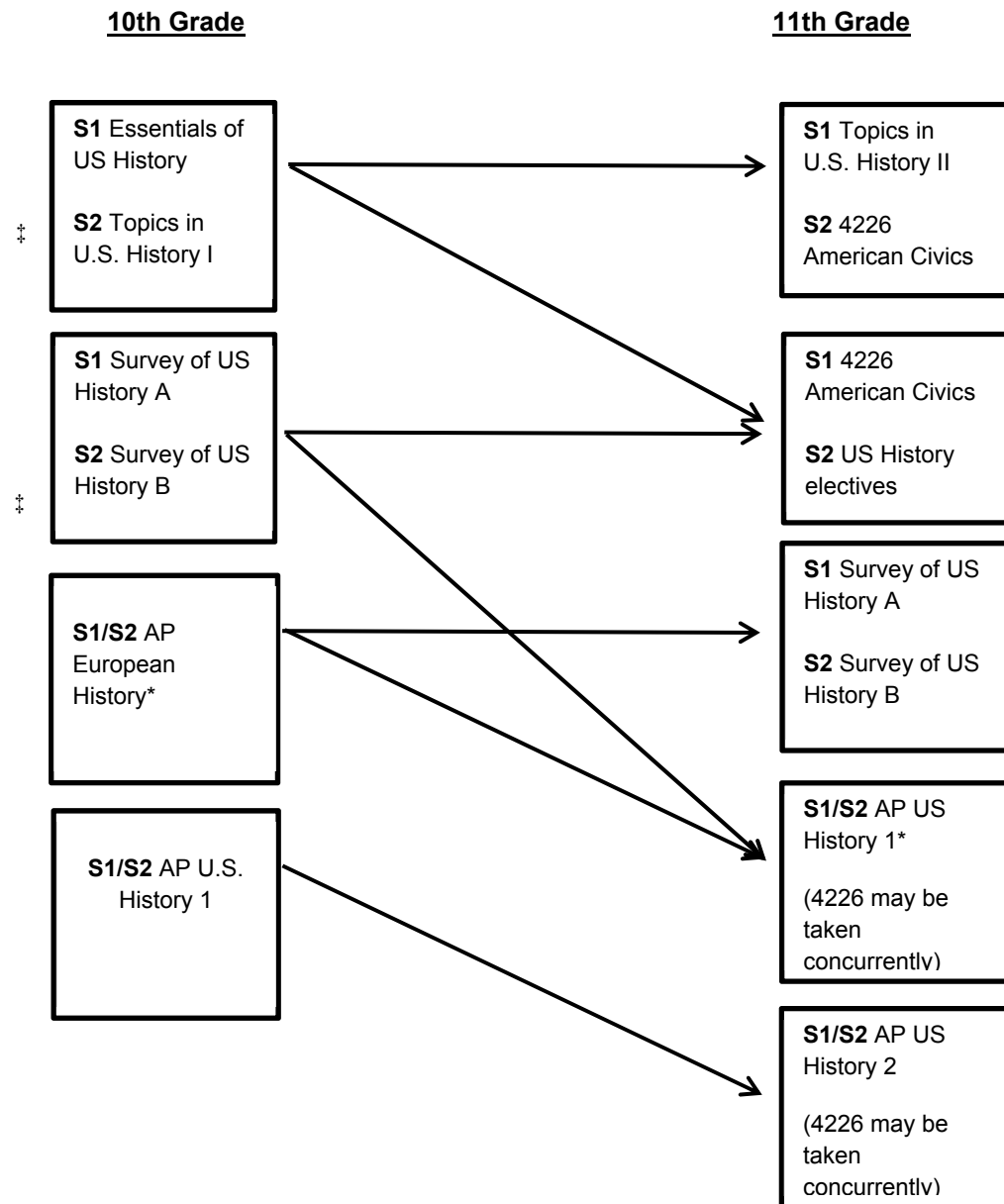


* Latin Lyceum requirement in the Sophomore year.

‡ Requires teacher recommendation.

- **2020-2021 Social Studies Department Required Progressions: 10th to 11th Grade**

Possible progressions paths (dependent on teacher recommendation)



* Latin Lyceum requirement in the Junior year.

‡ Requires teacher recommendation.

In their Junior Year, students who meet course prerequisites may also take Social Sciences electives — including AP/DE courses — concurrently with the required Departmental course progression. *Juniors cannot substitute Social Sciences electives for graduation and/or Latin Lyceum requirements.*

2020-2021 Social Studies Department Required Progressions: 11th to 12th Grade

*If you took this
in the 11th
Grade.*

S1 Survey of US
History A

S2 Survey of US
History B

S1/S2 AP U.S.
History 1

*then you need to
take this in the
12th Grade.*

S1 or S2 4226
American Civics
S1 or S2 one
additional US
History Elective

S1/S2 AP US
History 2

(4226 may be
taken concurrently)

WORLD HISTORY COURSES

4121 **ESSENTIALS OF WORLD HISTORY - College** **9** **2.5 Cr.**

Essentials of World History is designed for students who need specialized support to be ready for the Social Studies Curriculum at Lowell High School. Focusing on reading, listening, and communication skills, instructors will use content from the World History curriculum and scaffolded, differentiated instruction to provide a sound base for students to be successful in their further work in social studies and to be ready to meet the graduation requirements of the department. *(Co-enrollment at the same level with 0131/0132 English 1 - College or 0111/0112 Explorations in English-College)*

4122 **TOPICS IN WORLD HISTORY - College** **9** **2.5 Cr.**

Building on the proficiencies developed in Essentials of World History, this project-based course helps students reinforce their competency in critical reading and listening, social sciences writing, and multi-media communication through research-based projects. Content is taken from the World History curriculum. Instructors will individualize their classroom focus and curriculum to provide the strongest platform possible for student success in the social studies curriculum. *(Co-enrollment at the same level with 0131/0132 English 1 - College or 0111/0112 Explorations in English-College)* **PREREQUISITE: 4121 Essentials of World History.**

4141/4142 **SURVEY OF WORLD HISTORY A/B - Honors** **9** **2.5/2.5 Cr.**

Survey of World History begins with a study of the development of democracy in ancient Greece and the development of empire in ancient Rome and ends in the late Middle Ages. It is designed in accordance with the Massachusetts Curriculum Frameworks and Common Core State Standards and integrates global studies, world history, geography, economics, and government. It emphasizes the development of a rich historical vocabulary, primary source analysis, and research techniques. Students will engage in a wide variety of enriching learning activities and assessments as they increase their knowledge of the global community. *(Co-enrollment at the same level with 0141/0142 English 1 - Honors)*

4181/4182 **SURVEY OF WORLD HISTORY A/B - High Honors** **9** **2.5/2.5 Cr.**

Survey of World History begins with a study of the development of democracy in ancient Greece and the development of empire in ancient Rome and ends in the late Middle Ages. It is designed in accordance with the Massachusetts Curriculum Frameworks and Common Core State Standards and integrates global studies, world history, geography, economics, and government. It emphasizes the development of a rich historical vocabulary, primary source analysis, and research techniques. In High Honors *Survey of World History* students will move through the essential literacy goals of Freshman *Survey of World History* at an accelerated rate, reaching milestones more quickly, and reinforcing those skills more deeply. They will engage in a wide variety of accelerated learning activities and assessments as they increase their knowledge of the global community. *(Co-enrollment at the same level with 0151/0152 English 1 - High Honors)*

U.S. HISTORY CORE AND ELECTIVE COURSES

4221 **ESSENTIALS OF U.S. HISTORY - College** **10, 11** **2.5 Cr.**

Essentials of U.S. History is designed for students who continue to need specialized support to be successful in the Social Studies Curriculum at Lowell High School. Focusing on reading, listening, and communication skills, teachers in *Essentials* classes will use content from the U.S. History curriculum and scaffolded, differentiated instruction to provide further skills development and reinforcement for students to be successful in their further work in social studies and to be ready to meet the graduation requirements of the department.

4222 **TOPICS IN U.S. HISTORY I - College** **10, 11** **2.5 Cr.**

Topics in U.S. History I builds on the proficiencies developed in *Essentials of U.S. History*; this project-based course helps students reinforce their competency in critical reading and listening, social sciences writing, and multi-media communication through research-based projects. Content is taken from the U.S. history curriculum. Instructors will individualize their classroom focus and curriculum to provide the strongest platform possible for student success in the social studies curriculum and to meet the graduation requirements of the department. **PREREQUISITE: 4221 Essentials of U.S. History.**

4223/4224 **SURVEY OF U.S. HISTORY A/B - Honors** **10, 11** **2.5/2.5 Cr.**

Survey of U.S. History emphasizes the major events in the history of the United States from the French and Indian War to the current day. It is designed around major topics in U.S. History — in accordance with the Massachusetts Curriculum Frameworks, Common Core State Standards, and NCSS guidelines — to provide students with a fundamental knowledge of major currents in American history, with a sound knowledge of complex historical causes; the roots of American democracy, and the rights and responsibilities of citizenship; and, the importance of individual and group action in ensuring American liberty. The course will reinforce goals in critical reading, listening, and communication across multiple domains. **PREREQUISITE: Successful completion of Survey of World History.**

4225 **TOPICS IN U.S. HISTORY II - College** **11, 12** **2.5 Cr.**

Topics in U.S. History II continues the focus of Topics in US History I with a project-based, in-depth examination of major events in United States history from the early 20th century to the present day. In the course, students will continue to develop competency in critical reading and listening, social sciences writing, and multi-media communication. Instructors will individualize their classroom focus and curriculum to provide the strongest platform possible for student success. Students are expected to follow this course with 4226 American Civics. **PREREQUISITE: 4222 Topics in U.S. History I.**

4226 **AMERICAN CIVICS PAST & PRESENT - Honors** **11, 12** **2.5 Cr.**

With the action civics program Generation Citizen at its core, *American Civics* challenges students to be active, productive, and responsible participants in the civic life of Lowell, Massachusetts, and the United States. This one-semester course covers the founding principles and governmental structures of the United States and Commonwealth of Massachusetts, protocols around governance, citizen engagement, voting, and symbols of the Commonwealth and nation. Students participate in a process of identifying a communal issue important to them, then learn how to be citizen change-agents to affect positive outcomes to resolve the issue. Each class sends a delegation to the Massachusetts at the end of the term to present their work in a statewide Civics Day. Except for AP US History students, this class is an obligatory portion of the ten-credit US History graduation requirement. Students who take AP US History may take it as an elective. **PREREQUISITE: Successful completion of Survey of World History or Essentials / Topics I / Topics II in U.S. History.**

4261/4262 **U.S. HISTORY 1 AP - Advanced** **10, 11** **2.5/2.5 Cr.**

U.S. History 1 - AP meets the standards of the College Board's Advanced Placement program as well as the Massachusetts Curriculum Frameworks. Beginning with European colonization and ends at the close of the Civil War and Reconstruction, it provides in-depth knowledge and inquiry in every major aspect of U.S. History. The course builds skills in working with primary and secondary sources as well as assessments developed with College Board AP standards. The course is reading and writing intensive. **NOTE: This course is required for students enrolled in the Latin Lyceum. PREREQUISITE: Successful completion of both Survey of World History (H/HH) and English 1(H/HH) with a minimum grade of 90, and written recommendation from at least one humanities teacher. All AP courses require Department Chair Approval.**

4361/4362 **U.S. HISTORY 2 AP - Advanced** **11, 12** **2.5/2.5 Cr.**

U.S. History 2 - AP analyzes the development of the United States from Reconstruction through present day. This course stresses political history as well as examining economic development, diplomatic, intellectual, social, urban and ethnic history. The AP course in U.S. History is designed to meet the standards of the College Board's Advanced Placement program as well as the Massachusetts Curriculum Frameworks. The course builds skills in working with primary and secondary sources as well as assessments developed with College Board AP standards. The course is reading and writing intensive. This course is required for students enrolled in the Latin Lyceum. **PREREQUISITE: Successful completion of U.S. History 1 AP. Transfer into U.S. History 2 AP from any other course is reviewed on a case-by-case basis by the Department Chair for approval.**

4371 **EDUCATION IN AMERICA - Honors** **11, 12** **2.5 Cr.**

In the United States of America, education is required for almost all students up to age 18. It is the single most important common experience of all Americans' childhood. Most people, however, do not have a full understanding of how education in America evolved into the system we have today or what it means to be a teacher in today's rapidly changing environment. Education in America course will introduce students to the historical foundations of U.S. education, including the major movements that shaped American education. It will explore what it means to be a public education teacher. The course will include required readings, projects, research, presentations, and, as a capstone of the course, the opportunity to explore the role of teaching by planning and implementing a lesson in an LHS classroom. Education in America is especially recommended for any student who is interested in education as a future career. **PREREQUISITE: Successful completion of English 2 and Survey of U.S. History.**

4380 **AMERICA & THE WORLD WARS - Honors** **11, 12** **2.5 Cr.**

WWI was known as the “Great War” and WWII came to be known as the “Good War.” America was fundamentally changed by both wars. WWI saw a reluctant United States involve itself in a European war for the first time; WWI led to the Roaring Twenties and a new American view of itself and the affairs of the world. WWII thrust America into the role of a world leader — a role that continues to the current day. It also set the groundwork for the Cold War and many of America’s current alliances. *America and The World Wars* traces the cause, course, and outcomes of America’s involvement in each of these wars. ***PREREQUISITE: Successful completion of English 2 and Survey of U.S. History.***

4383 **CIVIL RIGHTS AND JIM CROW - Honors** **11, 12** **2.5 Cr.**

Civil Rights and Jim Crow first answers the question “what is Jim Crow?” and why the term is at the center of much of America’s history around race relations. The course looks at the ways in which Jim Crow laws were conceived, constructed, and enacted, paying special attention to the ways in which they limited the freedoms of Black Americans and other minorities. *Jim Crow in America* brings issues raised in American history up to the present, examining both current legacies of Jim Crow and the ways in which different American communities view Jim Crow today, including the Black Lives Matter movement and opposing views. ***PREREQUISITE: Successful completion of English 2 and Survey of U.S. History.***

4384 **THE CIVIL WAR – Honors** **11, 12** **2.5 Cr.**

In The Civil War, students will study where America stood in 1860 on the eve of its costliest war. Issues of politics, economics, civilian and military culture, strategy, and the course of the war will be examined. The question of slavery and President Lincoln’s role as the “Great Emancipator” are an important part of the course, as is the question of the Constitutional amendments that came out of the war, and Reconstruction, the effects of which are still felt by the United States today. ***PREREQUISITE: Successful completion of English 2 and Survey of U.S. History.***

4385 **THE COLD WAR & GLOBAL WAR ON TERROR - Honors** **11, 12** **2.5 Cr.**

The Cold War arose out of WWII, as the West’s response to Soviet hegemony in Eastern and Central Europe as well as the rise of Communist China. The Cold War & Global War on Terror examines the history of the Cold War and the rise of the Nuclear Age; the relationship of the United States, the Soviet Union, and the People’s Republic of China; the rise of the American security state; American international relations and military responses to perceived Communist threats; the concept of blowback; the dissolution of the Soviet Union and the end of the Cold War; and the influence of all these historical trends on the present “Global War on Terror” that has arisen in the aftermath of 9/11. ***PREREQUISITE: Successful completion of English 2 and Survey of U.S. History.***

4563 **LOWELL: IMMIGRATION & INDUSTRIALIZATION - Honors** **11, 12** **2.5 Cr.**

Lowell: Immigration and Industrialization studies our city from multiple angles: history, sociology, demographics, urban geography, and urban anthropology. A major theme in this course is the way in which Lowell reflects America’s experience of industrialization and immigration. Course projects will look both at the history and the present of Lowell. Students will participate in the collection and curation of an oral history collection, and in the Generation Citizen program. This course is provided in cooperation with the Tsongas Industrial History Center and UML. ***PREREQUISITES: Successful completion of English 2 and Survey in U.S. History.***

4570

SEMINAR ON AMERICAN DIVERSITY - Honors

11, 12

2.5 Cr.

Seminar on American Diversity explores the diverse voices in the history and society of Lowell, the Commonwealth of Massachusetts, and the United States. Looking at a wealth of primary sources, the course will explore important and challenging issues in U.S. history and American current events around race, religion, ethnicity, socioeconomic class, gender, sexual orientation, and immigration and citizenship status. This course will include required reading, projects, teach-outs, short research papers, community interaction, and a final capstone project. The topics to be covered will be determined with input of the students through consensus building at the start of the semester. ***PREREQUISITE: Successful completion of English 2 and Survey of US History. This course is required for all CCC Pathway students.***

SOCIAL SCIENCES ELECTIVE COURSES

4415 **INTRO TO ECONOMICS & FINANCE - Honors** **11, 12** **2.5 Cr.**

Intro to Economics & Finance introduces the study of Microeconomics, the analysis of the smaller, individual pieces of larger economic structures; and Macroeconomics, the analysis of the economic behavior of states and governments. This course begins with a survey of basic economic concepts, and then applies these concepts to personal, institutional, and social economic decisions. Students look at how decisions to buy and sell affect prices, output, and employment. Students also study the various factors that influence individual economic decisions and how the market reacts to the decisions of individuals. Students analyze the impact of price changes on supply and demand and the relationship between consumers and producers; and, students analyze different market structures. In the macroeconomic realm, students survey and apply basic macroeconomic concepts relating to institutional, governmental, and social decision-making. The main focus of this part of the course is on how decisions to buy, sell, lend, and regulate effect output, employment, income distribution, and the balance of trade. Students examine the factors that determine national income, employment, and prices. Students analyze patterns of consumption and saving, private investment, government policy, business fluctuations, and the interaction between money and national income. The last part of the course looks at international economics including exchange rates, markets, and monetary systems. **PREREQUISITE: Successful completion of English 2 and Survey of U.S. History.**

4431 **INTRO TO SOCIOLOGY - Honors** **11, 12** **2.5 Cr.**

This one-semester course is designed to introduce students to sociology as a discipline, a science, and a way of examining the social world. Students will learn the analytical tools and concepts of sociology by engaging in a purposeful survey of the discipline, as well as a more focused study of selected topics. This course will emphasize a sociological perspective on structural and cultural inequalities, particularly those of race, class, and gender. Students will also learn to become knowledgeable consumers of sociological data as presented in the media and academic sources. This course is offered both semesters. **PREREQUISITES: Successful completion of English 2 and Survey of US History. Students may take DE Sociology after taking this course.**

4435 **INTRO TO SOCIOLOGY - (DE - MCC) - Advanced** **12** **2.5 Cr.**

Intro to Sociology provides an introduction to the sociological perspective which emphasizes the effect of society on human behavior. Major concepts covered include race, culture, wealth, poverty, and social class, education, the family and social change. **PREREQUISITES: Successful completion of English 3A and 3B, with a minimum grade of 80 in high honors, 85 in honors or 90 in college level. Students must also have an overall GPA of 2.5, a score of 480 or better on the PSAT or SAT verbal test, and a formal teacher recommendation from their current Social Studies teacher.**

4440 **PSYCHOLOGY & AMERICAN CULTURE - Honors** **11, 12** **2.5 Cr.**

In Psychology & American Culture, psychology concepts will be examined through the lens of American popular culture. The focus of the course is on analysis and writing to synthesize traditional psychological theories and the relevance of those theories to modern popular culture. This course will enable students to become more accomplished critical thinkers and develop the conceptual abilities and analytical skills needed to apply psychological thinking to their own experiences of thinking, feeling, and taking action. Students will recognize how understanding psychology can form a framework for an approach to living and a reflective attitude toward every aspect of life. **PREREQUISITES: Successful completion of English 2 and Survey of US History.**

4443 **INTRO TO PSYCHOLOGY - Honors** **11, 12** **2.5 Cr.**

This course is an introduction to the study of society and social behavior. Topics covered include sociological theory, research methods, culture, socialization, deviance, social institutions, social stratification, global inequalities, gender, race, ethnicity, social movements and social change. **PREREQUISITES: Successful completion of English 2 - Honors and Survey of US History. Students may take AP or DE Psychology after taking this course.**

4445/4446 **PSYCHOLOGY AP - Advanced** **11, 12** **2.5/2.5 Cr.**

The Psychology AP course introduces students to the study of the behavior and mental processes of human beings. Topics explored include: Scientific Inquiry, Biopsychology, Development and Learning, Socio-cultural Context, Cognition, Individual Variation, and Applications of Psychological Science. Students investigate the facts, principles, and phenomena associated with each of the major domains within psychology. This AP Psychology course has been designed to meet the standards of the College Board's Advanced Placement program. All students enrolled in the AP Psychology course must take the College Board AP Psychology exam to complete the course in good standing. **PREREQUISITES: Successful completion of English 2, and U.S. History 1 AP or Survey of US History with a minimum grade of 90 and a passing grade on the Psychology Assessment. All AP courses require Department Chair Approval.**

4447 **INTRO TO PSYCHOLOGY - (DE - MCC) - Advanced** **11, 12** **2.5 Cr.**

Intro to Psychology provides an introduction to the study of how people behave and function. Topics covered include: physiology of the brain, memory, learning, language, perception, life span changes, normality and abnormality, social interactions, group influence on individuals, and therapies. **PREREQUISITES: Successful completion of English 3A and 3B, with a minimum grade of 80 in high honors, 85 in honors or 90 in college level. Students must also have an overall GPA of 2.5, a score of 480 or better on the PSAT or SAT verbal test, and a formal teacher recommendation from their current Social Studies teacher.**

4451 **CHILD & ADOLESCENT DEVELOPMENT - Honors** **11, 12** **2.5 Cr.**

This one-semester course explores the physical, cognitive, and social development of children from the pre-natal stage through adolescence. Exploring important theories of development, the objective of this course is for students to comprehend the different ways that children and adolescents can be understood, through the use of different psychological domains. This course is especially relevant for students interested in going into education as their profession. **PREREQUISITES: Successful completion of English 2 - Honors and Survey of US History. Students may take AP or DE Psychology after taking this course.**

4473 **PHILOSOPHY & AMERICAN CULTURE - Honors** **11, 12** **2.5 Cr.**

In Philosophy & American Culture, philosophy concepts will be examined through the lens of American popular culture. The focus of the course is on analysis and writing to synthesize classical philosophy — including the philosophical texts of Plato, Aristotle, Kant, Kierkegaard, Sartre, Hume, and Locke — and the appearance of those concepts in modern popular culture. This course will enable students to become more accomplished critical thinkers and develop the conceptual abilities and analytical skills needed to think philosophically about such issues as morality, personal freedom, and the nature of reality and human existence. Students will recognize how philosophical ideas can form a framework for an approach to living and a reflective attitude toward every aspect of life. ***PREREQUISITES: Successful completion of English 2 and Survey of US History.***

4513 **FACING HISTORY & OURSELVES - Honors** **11, 12** **2.5 Cr.**

Facing History and Ourselves is based on the national program of the same name that helps students find meaning in the past and recognize the need for involvement and responsible decision-making. Using the Holocaust as a case study, students are asked to examine history in all of its complexities, including its legacies of prejudice and discrimination, resilience and courage. The Facing History course helps young people develop a voice in their conversations with peers, as well as in the important discussions and debates of their community and nation. In this course, students make the essential connection between history and the moral choices they confront in their own lives. Students will be required to complete an in-depth research project incorporating technological, written, and presentation components. ***PREREQUISITES: Successful completion of English 2 and Survey in U.S. History.***

4524 **CAMBODIA: CULTURE AND CONFLICT - Honors** **11, 12** **2.5 Cr.**

Cambodia: Culture and Conflict explores the history and culture of Cambodia from its earliest beginnings, as a protectorate of France, and as a modern independent nation. Students will also examine the causes, events, and aftermath of the Cambodian Genocide. The incorporation of primary source materials, oral histories, and guest speakers will be instrumental in this course. Students will be required to complete an in-depth research project incorporating technological, written, and presentation components. ***PREREQUISITES: Successful completion of English 2 and Survey in U.S. History.***

4541 **INTRO TO POLITICAL SCIENCE - Honors** **11, 12** **2.5 Cr.**

Political Science explores the origins of politics as a science from Machiavelli through Locke to Adams and Jefferson. Students consider such issues as power and sovereignty, nationalism and sectionalism, the federal system and the party system. Students delve into such questions as what is the state, what is authority, what are the psychological and sociological elements of the state and of national power. Students are required to complete written essays and research papers in this course. ***PREREQUISITES: Successful completion of English 2 and Survey of US History.***

4551/4552 INTERDISCIPLINARY GLOBAL STUDIES – Honors 11, 12 2.5/2.5 Cr.

Interdisciplinary Global Studies looks at different regions of the world and uses an inquiry-based learning method to examine contemporary issues around the world, using various types of primary and secondary sources, and different social science methodologies. Course content will include both a set course focus and additional topics generated by student consensus at the beginning of each semester. An essential question in the course is “What tools do we need as global citizens to understand what we see in the world today.” Semester 1 will focus on Africa, the Hispanic world, and Brazil. Semester 2 will focus on Europe, Asia and the Pacific Rim, and Canada. American international relations will be an important component of both semesters of this course. *Interdisciplinary Global Studies* is inquiry-based and will require a heavy load of research, writing, and multimedia presentation. It is not required that students take the two semesters together or consecutively. **PREREQUISITES: Successful completion of English 2 and Survey of US History.**

4561/4562 EUROPEAN HISTORY AP - Advanced 10, 11, 12 2.5/2.5 Cr.

European History is for students who wish to develop a broader base in university-level history. The course begins with the Renaissance and the religious upheavals that marked the emergence of early modern Europe and continues up to the present day. It follows a thematic as well as a chronological sequence to acquaint students with all major religious, political, social, economic, and artistic movements leading to the formation of the major nation states. Students are required to master a series of outside reading assignments and to demonstrate advanced analytical and writing skills. **PREREQUISITE: World History - High Honors with a 90 or teacher recommendation, or AP U.S. History 2 or teacher recommendation, or Department US History requirement (10 credits) with cumulative 90 or better. All AP courses require Department Head approval. This course is a required component of the Latin Lyceum in the sophomore year.**

4571 INTERNSHIP FOR CCC PATHWAY - Honors (S2 only) 12 2.5 Cr.

Through learning essential research skills and examining and analyzing a variety of contextual factors in Lowell including the economic, political, and educational systems, students will begin to develop an understanding of and meaningful connection to their community. In addition, students will acquire an awareness of the multiple opportunities available to them in their pursuit of becoming active and involved citizens. An integral part of the course is an internship in a community-based organization, with a minimum of five (5) hours of service per week for at least ten weeks. The course utilizes elements of the Generation Citizen model; students also will complete a major capstone that demonstrates their mastery of the core concepts and skills of the CCC Pathway. **PREREQUISITES: Successful completion of Seminar in American Diversity. This course is a required component of the CCC Pathway.**

4572

INTERNSHIP FOR EDUCATION PATHWAY - Honors (S2 only)

12

2.5 Cr.

In the Education Pathway students are exposed to the building blocks of public education, through study of subjects that are core to educator preparation, along with the experience of participating in a real Lowell Public Schools classroom. Students will learn that there are many different approaches to education, as well as many different settings (public, private, parochial, and homeschooling) in which education exists. The Pathway is closely partnered with UML's School of Education; students will participate in UML's program through special events on and off the UML campus. An integral part of the course is an internship in a Lowell Public Schools elementary school classroom, with a minimum of five (5) hours of class-time per week for at least ten weeks. Along with the internship, students will complete a major capstone that demonstrates their mastery of the core concepts and skills of the Education Pathway. **PREREQUISITES: Successful completion of Education in America and Science and Education. This course is a required component of the Education Pathway.**

4661/4662

U.S. GOVERNMENT AND POLITICS (AP) - Advanced 11, 12

2.5/2.5 Cr.

U.S. Government and Politics focuses on the study of the include the United States Constitution, public policy, political behavior, political and government institutions, civil liberties, and in-depth case studies of landmark Supreme Court decisions. This rigorous AP U.S. Government and Politics course has been designed to meet the standards of the College Board's Advanced Placement program. All students enrolled in this full year elective must take the AP College Board subject test. **PREREQUISITE: Successful completion of English 2 and Survey of US History with a minimum grade of 90. All AP courses require Department Chair Approval.**

MATHEMATICS

To function in today's society, mathematical literacy is as essential as verbal literacy. These two kinds of literacy, although different, are not unrelated. Without the ability to read and understand, no one can become mathematically literate. Increasingly, the reverse is also true: without the ability to understand basic mathematical ideas, one cannot fully comprehend the world around them. Therefore, a primary goal of the Mathematics Department is for all students to achieve mathematical literacy. However, mathematical literacy includes more than students being able to do arithmetic and to solve routine mathematical problems. Mathematical literacy requires students to reason and prove, to solve real mathematical problems, to make connections, to use multiple representations of numerical information, and to communicate mathematical information to other people. All of the courses in the Mathematics Department operate with these learning goals in mind.

Lowell High School's graduation requirement is the passing of ten (10) credits in Mathematics (5 credits of Algebra and 5 credits of Geometry).

Massachusetts law requires students to pass the grade 10 MCAS tests, with a score of at least 240, in addition to local graduation requirements, as a condition for receiving a high school diploma. Consequently, all freshman and sophomore courses prepare the students in the State Mathematics Curriculum Framework requirements so that they will be prepared for the MCAS mathematics test. The Mathematics Department also provides courses to support students' needs to fulfill the EPP requirements, should a student need them

Please see the flow chart in this section for a guide to the sequence of mathematics courses.

MATHEMATICS CORE COURSES

1121/1122	Algebra 1 - College	9, 10, 11, 12	2.5/2.5
1120	Algebra 1 - College (BL)	10	5
1131/1132	Algebra 1 - College	9 (FA)	2.5/2.5
1141/1142	Algebra 1 - Honors	9 (FA)	2.5/2.5
1101/1111	Transition To Algebra/Topics in Algebra	9 (FA)	2.5/2.5
1112	Applications In Algebra	10	2.5
1325	Applications in Math - College	11, 12	2.5
1220	Geometry - College (BL)	10	5
1231/1232	Geometry - College	10, 11, 12	2.5/2.5
1241/1242	Geometry - Honors	10, 11	2.5/2.5
1251/1252	Geometry & Analytic Geometry - High Honors	9, 10	2.5/2.5
1331/1332	Algebra 2 - College	10, 11, 12	2.5/2.5
1341/1342	Algebra 2 - Honors	10, 11	2.5/2.5
1351/1352	Algebra 2 & Trigonometry - High Honors	10, 11	2.5/2.5
1431/1432	Pre-Calculus - College	11, 12	2.5/2.5
1441/1442	Pre-Calculus - Honors	11, 12	2.5/2.5
1451/1470	Advanced Pre-Calculus / Calculus A - Advanced	11, 12	2.5/2.5
1443/1444	Fundamentals of Calculus - Honors	12	2.5/2.5
1475/1476	AP Calculus AB - Advanced	11, 12	2.5/2.5
1477/1478	AP Calculus BC - Advanced	12	2.5/2.5
1467/1468	Statistics - Honor	11, 12	2.5/2.5
1465/1466	AP Statistics - Advanced	11, 12	2.5/2.5

MATHEMATICS SUPPORT & ELECTIVE COURSES

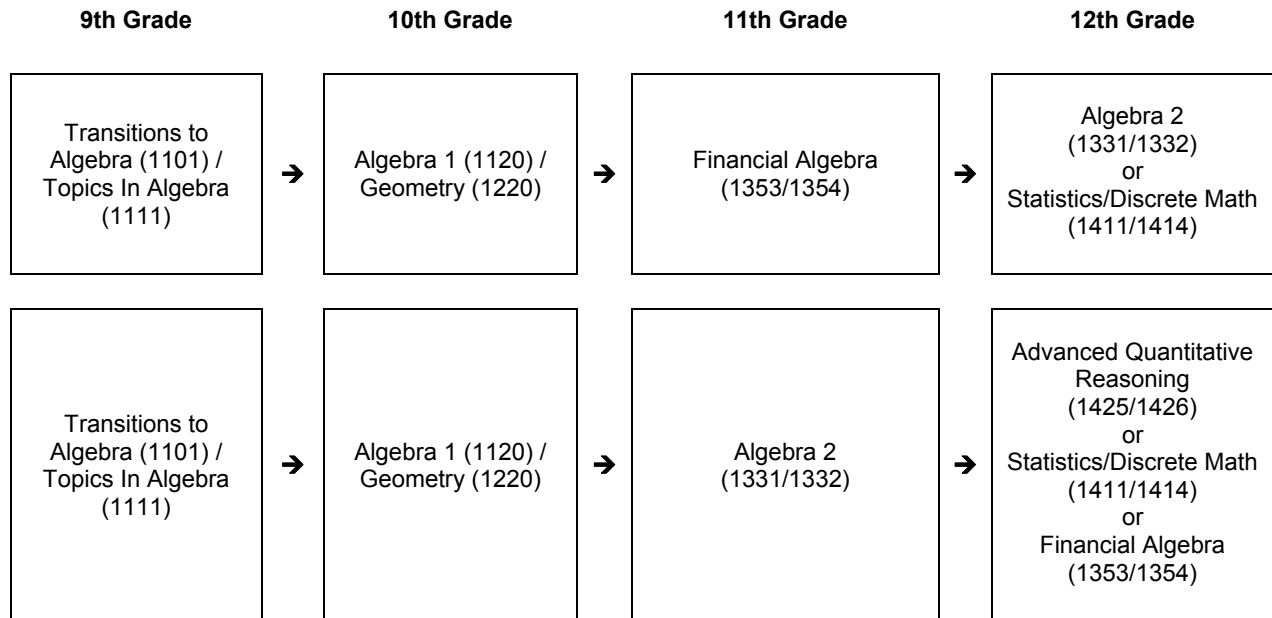
1062	SAT Preparation - Honors	11, 12	2.5
1081/1082	Freshman Math Seminar - Non-Weighted	9 (FA)	2.5/2.5
1411	Introduction to Statistics - College	11, 12	2.5
1414	Discrete Mathematics - College	11, 12	2.5
1425/1426	Advanced Quantitative Reasoning - College	11, 12	2.5
1427/1428	Advanced Quantitative Reasoning - Honors	11, 12	2.5
1429/1430	Math 4 - College	12	2.5/2.5
1353/1354	Financial Algebra - College	11, 12	2.5/2.5

COMPUTER PROGRAMMING

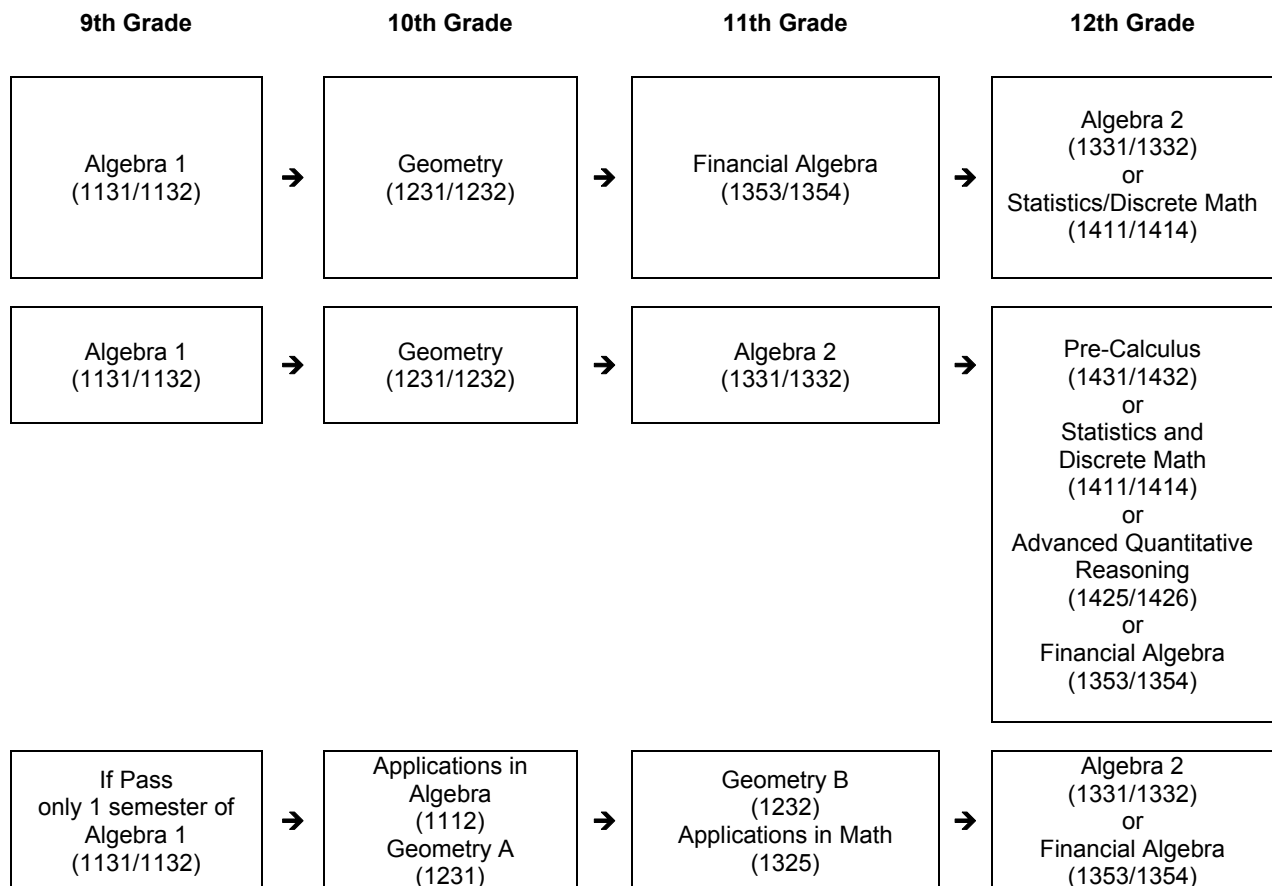
1613/1614	Introduction to Programming -Honors	10, 11, 12	2.5/2.5
1641/1642	Java Programming - Honors	10, 11, 12	2.5/2.5

Mathematics Course Sequence Flow Chart

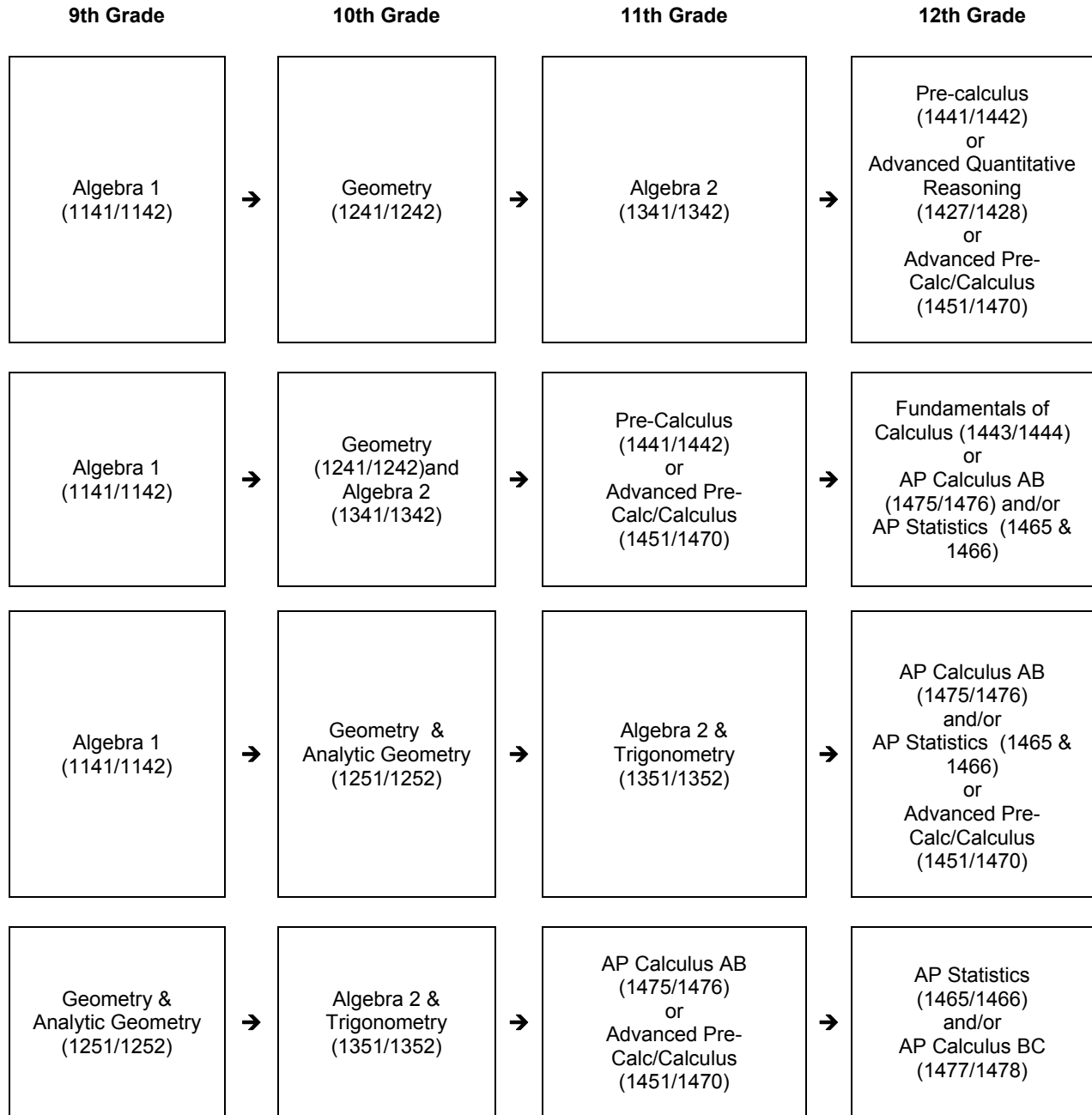
College Level Transitional Flow Chart



College Level Flow Chart



Honors Level Flow Chart



MATHEMATICS CORE COURSES

1101/1111	TRANSITION TO ALGEBRA - College	9	2.5/2.5 Cr.
	TOPICS IN ALGEBRA 1 - College		

Transition To Algebra solidifies Algebra skills and concepts from grades 6, 7, and 8. Students can expect to develop an understanding of operations with rational numbers and working with expressions and linear equations during the first semester. Parts of the course will be tailored to a student's individual needs to fill the gaps in their mathematical learning.

Topics In Algebra is for students that have completed Transitions to Algebra. Power Standards from the Algebra 1 curriculum will be covered. **NOTE: This class will be taken out of standard sequence. PREREQUISITE: Approval of Department Head**

1112	APPLICATIONS IN ALGEBRA 1 - College (Fall)	10	2.5 Cr.
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Applications In Algebra is for students that have failed a semester of Algebra 1. Power Standards from the Algebra 1 curriculum will be covered, plus Geometry standards needed for MCAS. NOTE: Students who take this course will then enroll in Geometry A (1231) for 2nd Semester. **NOTE: This class will be taken out of standard sequence. PREREQUISITE: Approval of Department Head**

1120	ALGEBRA 1 (BL) - College (S1)	9, 10, 11, 12	5 Cr.
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Algebra 1 develops reasoning skills in a way that will help students in their future courses and careers. The topics of Algebra 1 focus on four critical areas: (1) deepen and extend understanding of linear and exponential relationships; (2) contrast linear and exponential relationships with each other and engage in methods for analyzing and solving linear and using quadratic functions; (3) extend the laws of exponents to square and cube roots; and (4) apply linear models to data that exhibit a linear trend. **NOTE: This course is presented in a 2 consecutive period block format and is for students that have successfully completed the 1101 Transitions to Algebra and 1111 Topics in Algebra course sequence. Permission of the Department Head is required.**

1121/1122	ALGEBRA 1 - College	9, 10, 11, 12	2.5/2.5 Cr.
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Algebra 1 develops reasoning skills in a way that will help students in their future courses and careers. The topics of Algebra 1 focus on four critical areas: (1) deepen and extend understanding of linear and exponential relationships; (2) contrast linear and exponential relationships with each other and engage in methods for analyzing and solving linear and using quadratic functions; (3) extend the laws of exponents to square and cube roots; and (4) apply linear models to data that exhibit a linear trend.

1131/1132	ALGEBRA 1 - College	9	2.5/2.5 Cr.
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Algebra 1 develops reasoning skills in a way that will help students in their future courses and careers. The topics of Algebra 1 focus on four critical areas: (1) deepen and extend understanding of linear and exponential relationships; (2) contrast linear and exponential relationships with each other and engage in methods for analyzing and solving linear and using quadratic functions; (3) extend the laws of exponents to square and cube roots; and (4) apply linear models to data that exhibit a linear trend. *(Co-enrollment at the same level with 3131/3132 Integrated Science - College)*

1141/1142 ALGEBRA 1 - Honors 9 2.5/2.5 Cr.

Algebra 1 - Honors develops reasoning skills in a way that will help students in their future courses and careers. The topics of Algebra 1A focus on two critical areas: (1) deepen and extend understanding of linear and exponential relationships; (2) contrast linear and exponential relationships with each other and engage in methods for analyzing and solving linear and exponential equations. *(Co-enrollment at the same level with 3141/3142 Integrated Science - Honors)* **PREREQUISITE: Eligibility for this course is established by teacher recommendation, placement tests scores, and a grade of at least 85 in eighth grade mathematics or 75 through 85 in a full year eighth grade Algebra 1 class.**

1325 APPLICATIONS IN MATH - College 11, 12 2.5 Cr.

Applications in Math is a skill based course that applies Algebra 1 and Geometry based concepts in real world applications. **PREREQUISITE: Successful completion of Geometry B (S1) path and Department Head Approval.**

1220 GEOMETRY (BL) - College (S2) 10, 11, 12 5 Cr.

Geometry is developed with a view of logical thinking and applied Algebra as well as its applications to the physical world. Properties of lines, angles and triangles are examined and in some cases deduced from other properties. The idea of congruence is introduced and the classical postulates and theorems are introduced and discussed. Properties of polygons are included. Transformations are studied. Hands on projects are utilized throughout the course. **NOTE: This course is presented in a 2 consecutive period block format and is for students that have successfully completed the 1101 Transitions to Algebra and 1111 Topics in Algebra course sequence. Permission of the Department Head is required.**

1231/1232 GEOMETRY - College 10, 11, 12 2.5/2.5 Cr.

Geometry is developed with a view of logical thinking and applied Algebra as well as its applications to the physical world. Properties of lines, angles and triangles are examined and in some cases deduced from other properties. The idea of congruence is introduced and the classical postulates and theorems are introduced and discussed. Properties of polygons are included. Transformations are studied. Hands on projects are utilized throughout the course. **PREREQUISITE: Successful completion of one year of high school math.**

1241/1242 GEOMETRY - Honors 9, 10, 11 2.5/2.5 Cr.

Geometry develops a view of logical thinking and applied Algebra as well as its applications to the physical world. Properties of lines, angles and triangles are examined and in some cases deduced from other properties. The idea of congruence is introduced and the classical postulates and theorems are introduced and discussed. Properties of polygons are included. Transformations are studied. Hands on projects are utilized throughout the course. There is much greater emphasis on geometry as a postulate based and deductive system. Patterns of inference and other aspects of logical thinking and Applied Algebra are discussed and results are obtained by proof. **PREREQUISITE: Successful completion of Algebra 1.**

1251/1252 GEOMETRY & ANALYTIC GEOMETRY - High Honors 9, 10 2.5/2.5 Cr.

Geometry and Analytic Geometry (Pre-Calculus A) is a fast paced in-depth course that places emphasis on Geometry as a postulate based and deductive system and includes Coordinate and Analytic Geometry and 3-Dimensional figures. *(Co-enrollment at the same level with 3141/3142 Integrated Science - Honors)* **PREREQUISITE: Placement exam for 9th graders and successful completion of Algebra 1 with teacher recommendation and an A average for 10th graders.**

1331/1332 ALGEBRA 2 - College 10, 11, 12 2.5/2.5 Cr.

Algebra 2 includes graphing linear functions, and solution of systems of simultaneous linear equations exponents, polynomials, rationals, radicals, quadratic and polynomial equations. Factoring is treated in detail. **PREREQUISITE: Successful completion of Algebra 1.**

1341/1342 ALGEBRA 2 - Honors 10, 11 2.5/2.5 Cr.

Algebra 2 - Honors includes how various properties of numbers are derived from Postulates for the real number system. Algebraic expressions such as polynomials are examined with detail. Additional topics include graphing linear functions, matrices, and solution of systems of simultaneous linear equations exponents, polynomials, rationals, radicals, quadratic and polynomial equations. **PREREQUISITE: Course Algebra 1 is required. This course may be taken concurrently with Geometry by students with an average of at least 80 in Algebra 1 honors or 90 in Algebra 2 - College. SOPHOMORE CO-REQUISITE: Concurrent Geometry required.**

1351/1352 ALGEBRA 2 & TRIGONOMETRY - High Honors 10, 11 2.5/2.5 Cr.

Algebra 2 & Trigonometry combines the three semesters of courses Algebra 2 and Pre-Calculus (Trigonometry) into two semesters. **PREREQUISITE: Successful completion of Algebra 1 with teacher recommendation is required. This course may be taken concurrently with Geometry & Analytical Geometry by students with at least 90 in Algebra 1 - Honors and a score of Proficient in the MCAS test.**

1429/1430 MATH 4 - College 12 2.5/2.5 Cr.

Math 4 is for Seniors on an EPP and will reinforce problem solving skills by working with Real Numbers, Equations, Simplification of Algebraic Expressions, Functions, Inequalities, Systems of Equations, Graph Theory, Quadrilaterals and Polygons. This course is designed to target instruction for each student in the areas where they need the most help. **PREREQUISITE: Successful completion of Algebra 1 and Geometry.**

1431/1432 PRE-CALCULUS A - College 11, 12 2.5/2.5 Cr.

Pre-Calculus A utilizes analytic geometry by using rectangular coordinates and special attention is given to the second degree equations that describe the conic sections. The course provides an exposure to the properties of parabolas, hyperbolas, circles and ellipses and includes further study of functions, rational functions, logarithmic and exponential functions. Also provided is an introduction to concepts of limits and continuity of functions, which are further examined in calculus. Trigonometric functions are defined and discussed, trigonometric identities are studied, and a variety of standard problems involving the use of trigonometric functions are solved. A deeper understanding of angles is pursued. **PREREQUISITE: Successful completion of course Geometry and Algebra 2. Students must attain at least a 70 in both Geometry and Algebra 2 and a score of at least a 240 in the MCAS math test.**

1441/1442	PRE-CALCULUS - Honors	11, 12	2.5/2.5 Cr.
<p>Pre-Calculus - Honors provides a deeper detail of Analytic Geometry using rectangular coordinates with special attention given to the second degree equations that describe the conic sections, exposure to the properties of parabolas, hyperbolas, circles and ellipses, and includes further study of functions, rational functions, logarithmic and exponential functions. Also provided is an introduction to concepts of limits and continuity of functions, which are further examined in calculus. Trigonometric functions are defined and discussed, trigonometric identities are studied, and a variety of standard problems involving the use of trigonometric functions are solved. A deeper understanding of angles is pursued. PREREQUISITE: Successful completion of Geometry and Algebra 2 - Honors with a minimum grade of 80 and a score of at least a 240 in the MCAS math test.</p>			
1451/1470	ADVANCED PRE-CALCULUS / CALCULUS A - Advanced	11	2.5/2.5 Cr.
<p>Advanced Pre-Calculus/Calculus A includes further study of functions, especially logarithmic and exponential, and an introduction to concepts of limits and continuity of functions, which are further examined in Calculus. The trigonometric functions are defined and discussed, trigonometric identities are studied, and a variety of standard problems involving the use of trigonometric functions are solved. This course satisfies a mathematics graduation requirement. PREREQUISITE: Successful completion of Geometry /Analytic Geometry and Algebra 2 - High Honors with a minimum grade of 85 and a score of at least a 240 in the MCAS math test.</p>			
1443/1444	FUNDAMENTALS OF CALCULUS - Honors	11, 12	2.5/2.5 Cr.
<p>Fundamentals of Calculus explores graphs, limits and topics of differential and integral calculus are covered. There is more emphasis on problem solving than on theory. . This course satisfies a mathematics graduation requirement. PREREQUISITE: Successful completion of Pre-Calculus; Recommendation of Pre-Calculus teacher and successful completion of a diagnostic exam.</p>			
1475/1476	CALCULUS AB AP - Advanced	11, 12	2.5/2.5 Cr.
<p>Calculus AB gives the student a more thorough knowledge of differential and integral calculus. The topics covered are set forth in guidelines supplied by the AP Calculus Program of the College Board. In part A, the principal topics involve functions, limits, continuity and derivatives. In part B, integrals and anti-derivatives are the main topics. PREREQUISITE: Successful completion of Pre-Calculus; Recommendation of Pre-Calculus teacher and successful completion of a diagnostic exam. All AP courses require Department Head Approval.</p>			
1477/1478	CALCULUS BC AP - Advanced	12	2.5/2.5 Cr.
<p>Calculus BC gives the student a more thorough knowledge of differential and integral calculus. Topics covered in part C, include parametric, polar, and vector functions, their derivatives and integrals; slope fields and solution curves; convergence and divergence; L'Hospital's rule; Euler's method; and Taylor series. The student is required to take the College Board AP Calculus BC exam, administered in May of senior year. Successful completion of this exam may enable the student to receive credit for first year calculus from colleges throughout the country. Students are required to obtain a graphing calculator, which is necessary for the AP exam. This course satisfies a mathematics graduation requirement. PREREQUISITE: Successful completion of AP Calculus AB or PRE-CALCULUS B - High Honors/Calculus A - Advanced. All AP courses require Department Head Approval.</p>			

1467/1468 STATISTICS - Honors 11, 12 2.5/2.5 Cr.

Statistics introduces the students to statistical analysis through problems, simulations and projects. Topics include probability, random variables, and measures of central tendency, variance, discrete and continuous probability distributions, sampling theory and hypothesis testing. **PREREQUISITE: Successful completion of Algebra 2.**

1465/1466 STATISTICS AP - Advanced 11, 12 2.5/2.5 Cr.

Statistics AP will cover the AP Statistics syllabus prepared by the Advanced Placement committee of the College Board. Students will take the AP exam in Statistics. This course satisfies a mathematics graduation requirement. **PREREQUISITE: Successful completion of Geometry - Honors with a minimum grade of 80, successful completion of Algebra 2 - Honors with a minimum grade of 80 and successful completion of the entrance exam. All AP courses require Department Head Approval.**

MATHEMATICS SUPPORT & ELECTIVE COURSES

1062 SAT PREPARATION MATH - Honors 11, 12 2.5 Cr.

SAT Preparation Math is recommended for students wishing to increase their math PSAT and SAT scores. Test taking strategies will be studied and a number of actual SAT math tests will be taken throughout the semester. **NOTE: Does not meet math graduation requirement.**

1081/1082 MATH SEMINAR - Non-weighted 9 (FA) 2.5/2.5 Cr.

Math Seminar aims to give students the mathematical knowledge, skills, and confidence needed to succeed in a standard first year Algebra class. Students will be placed in this course based on their MCAS scores or by recommendation of their 8-th grade math teacher. **COREQUISITE: Algebra 1 - College. NOTE: Does not meet math graduation requirements.**

1353/1354 FINANCIAL ALGEBRA - College 11, 12 2.5/2.5 Cr.

Financial Algebra is an algebra-based, applications oriented, technology dependent course that requires Algebra 1 and Geometry. The course addresses college preparatory mathematics topics such as Algebra 2, Statistics, Probability and Pre-Calculus under seven financial umbrellas: Banking, Investing and modeling a business, Employment and Income taxes, Automobile ownership, Independent living, and retirement Planning and Household Budgeting. Students use a variety of problem solving skills and strategies in real-world contexts. **PREREQUISITE: Successful completion of Algebra 1 and Geometry.**

1411/1414	INTRODUCTION TO STATISTICS - College	11, 12	2.5 Cr.
	DISCRETE MATHEMATICS - College	11, 12	2.5 Cr.

Introduction to Statistics emphasizes Descriptive Statistics and Probability. Measures of Central Tendency (Mean, Median, and Mode) are reviewed. Percentiles and Normal Distributions are introduced along with Standard Deviation and z-Scores. Various graphs and graphing techniques are discussed that make data sets visually understandable as well as persuasive or misleading.

Discrete Mathematics studies the topics of group decision making (election theory), fair division, modeling, Euler paths, number theory, mapping and matrices. These and other topics covered reflect the changing nature of human society and are applied to important problems in the social sciences, biological sciences, and computer systems. They are topics that are useful to people in business, education, social science, and law, as well as those who study mathematics, science, and engineering.

1425/1426	ADVANCED QUANTITATIVE REASONING - College	11, 12	2.5/2.5 Cr.
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Advanced Quantitative Reasoning prepares students to use Algebra, Geometry, and Trigonometry and Discrete mathematics to model a range of situations and solve problems in a variety of ways. A significant aspect of the course is group work and oral presentations will be required every week. Topics include analyzing numerical data, using recursion and functions in models and decision making, networking, and graphing. Particular emphasis is given to statistics and financial applications. The course is project-based, and students will use all of the above to model real-life problems. This is a fast-paced, fun course - students get a chance to look at old topics in a new way! **PREREQUISITE: Successful completion of Algebra 1 and Algebra 2.**

1427/1428	ADVANCED QUANTITATIVE REASONING - Honors	11, 12	2.5/2.5 Cr.
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Advanced Quantitative Reasoning - Honors takes a more in-depth look at set theory, decision making and measures of central tendency and variance. Student oral presentations will be required several times a week and most of the work will be done in groups. This course is designed to prepare students to use Algebra, Geometry, and Trigonometry and Discrete mathematics to model a range of situations and solve problems in a variety of ways. A significant aspect of the course is group work and oral presentations will be required every week. Topics include analyzing numerical data, using recursion and functions in models and decision making, networking, and graphing. Particular emphasis is given to statistics and financial applications. The course is project-based, and students will use all of the above to model real-life problems. This is a fast-paced, fun course - students get a chance to look at old topics in a new way! **PREREQUISITE: Successful completion of Algebra 1 Honors and Algebra 2 - Honors.**

COMPUTER PROGRAMMING

1613/1614	Introduction to Programming - Honors	10, 11, 12	2.5/2.5
1641/1642	Java Programming - Honors	10, 11, 12	2.5/2.5

1613/1614	INTRODUCTION TO PROGRAMMING - Honors	10, 11, 12	2.5/2.5 Cr.
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Introduction to Programming introduces fundamental programming concepts in the context of creating animated movies and simple video games, in a hands-on environment. By manipulating the objects in their virtual world, students gain experience with all the programming constructs typically taught in an introductory programming course. The course is intended not only to familiarize students with computers but also to sharpen problem-solving skills. This course is designed for students that have limited to no programming knowledge. **PREREQUISITE: Successful completion of Algebra 1. NOTE: Does not meet math graduation requirements.**

1641/1642	JAVA PROGRAMMING - Honors	10, 11, 12	2.5/2.5 Cr.
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Introduces students to programming fundamentals in a hands-on laboratory environment using the Java programming language. Topics include but are not limited to control structures, sorting, and strings. The course explores problem solving and design strategies, developing and implementing algorithms, and evaluating different ways to solve a problem. A variety of questions in mathematics, science, and statistics are analyzed and programmed. **PREREQUISITE: Successful completion of Algebra 1. Students must have programming experience or Department Head Approval. NOTE: Does not meet math graduation requirements.**

SCIENCE

Each student is required to pass 10 credits in Science as a graduation requirement. All students must complete Integrated Science & Engineering and be **enrolled in or completed** Biology before electing an upper level science elective.

In addition to local graduation requirements, Massachusetts requires students to pass state generated MCAS tests as a condition for receiving a high school diploma. Successful completion of a Science MCAS test is a graduation requirement. Lowell High School students will sit for the Biology MCAS in their sophomore year.

Science Core Courses

3131/3132	Integrated Science & Engineering (LS) - College	9	2.5/2.5
3141/3142	Integrated Science & Engineering (LS) - Honors	9	2.5/2.5
3151/3152	Integrated Science & Engineering (LS) - High Honors	9	2.5/2.5
3247/3248	Explorations in Biology (LS) - College	10, 11, 12	2.5/2.5
3231/3232	Biology (LS) - College	10, 11, 12	2.5/2.5
3241/3242	Biology (LS) - Honors	10, 11, 12	2.5/2.5

Science Elective Courses

3731/3732	Principles of Biology - (DE-UML) (LS) - Advanced	11, 12	2.5/2.5
3250	General Biology 1 - (DE-MCC) (LS) - Advanced	11, 12	2.5
3783	Microbiology (LS) - Honors	11, 12	2.5
3331/3332	Chemistry (LS) - College	10, 11, 12	2.5/2.5
3341/3342	Chemistry (LS) - Honors	10, 11, 12	2.5/2.5
3721/3722	Chemistry (DE-UML) (LS) -Advanced	11, 12	4/4
3723/3724	Chemistry Lab (DE-UML) (LS) - Advanced	11, 12	1/1
3441/3442	Physics (LS) - Honors	11, 12	2.5/2.5
3461/3462	Physics 1 AP - Advanced	11, 12	5/5
3535	ESS: Geology - Honors	11, 12	2.5
3536	ESS: Meteorology - Honors	11, 12	2.5
3537	ESS: Oceanography - Honors	11, 12	2.5
3538	ESS: Astronomy - Honors	11, 12	2.5
3541	Introduction to Human Anatomy - Honors	11, 12	2.5
3543/3544	Anatomy & Physiology (LS) - Honors	11, 12	2.5/2.5
3548	Genetics (LS) - Honors	11, 12	2.5
3560	Forensics Science (LS) - Honors	12	2.5
3621	STEM Education - Honors	11	2.5
3735	Environmental Studies (DE-MCC) (LS) - Advanced	11, 12	2.5
3552/3553	Sustainability Career Explorations - Honors	11, 12	2.5/2.5

***Note - The ESS designated courses are designed to follow the 2016 Massachusetts Earth and Space Science Standards.**

BIOSCIENCE

3601/3602	Medical Terminology & Body Systems - Honors	11, 12	2.5/2.5
3605	Nutrition & Disease - Honors	11, 12	2.5
3607	Medical Law & Current Health Issues - Honors	11, 12	2.5
3611/3612	Principles of Biomedical Science (PLTW) (LS) - Honors	11, 12	2.5/2.5
3618	Careers in Health and Bioscience - Honors	12	2.5
3619	Bioscience Internship - Honors	12	2.5

ENGINEERING

3911/3912	Introduction to Engineering Design (PLTW) (LS) - Honors		
		10, 11, 12	2.5/2.5
3921/3922	Principles of Engineering (PLTW) (LS) - Honors	11, 12	2.5/2.5
3971	Introduction to Engineering - (DE MCC) (LS) - Advanced	12	2.5
3953/3954	Robotics (LS) - Honors	10, 11, 12	2.5/2.5
3945/3946	Architectural Design (LS) - Honors	10, 11, 12	2.5/2.5
3978	Engineering Internship - Honors	12	2.5

*EXCEPTIONS TO PREREQUISITE REQUIREMENTS AS LISTED REQUIRE WRITTEN APPROVAL OF
THE DEPARTMENT HEAD*

SCIENCE CORE COURSES

3131/3132 INTEGRATED SCIENCE & ENGINEERING (LS) - College
9 (FA) 2.5/2.5 Cr.

Integrated Science & Engineering provides a foundation in the study of Physical Science, Engineering, and Biology. Students will be expected to develop a qualitative understanding of fundamental course concepts through teacher-guided inquiry that includes hands-on activities, laboratory investigations, and teacher demonstrations. Students will be expected to apply algebra principles in solving both quantitative and qualitative problems. *(Co-enrollment at the same level with 1131/1132 Algebra 1 - College) Meets Lab Science standards*

3141/3142 INTEGRATED SCIENCE & ENGINEERING (LS) - Honors
9 (FA) 2.5/2.5 Cr.

Integrated Science & Engineering provides a foundation in the study of Physical Science, Engineering and Biology. Students will be expected to develop a qualitative understanding of fundamental course concepts through teacher-guided inquiry that includes hands-on activities, laboratory investigations, and teacher demonstrations. Students will be expected to apply algebra principles in solving both quantitative and qualitative problems. *(Co-enrollment at the same level with 1141/1142 Algebra 1- Honors or 1251/1252 Geometry & Analytic Geometry - High Honors) Meets Lab Science standards*

3151/3152 INTEGRATED SCIENCE & ENGINEERING (LS) - High Honors
9 (FA) 2.5/2.5 Cr.

Integrated Science & Engineering provides a foundation in the study of Physical Science, Engineering and Biology. Students will be expected to develop a qualitative understanding of fundamental course concepts through teacher-guided inquiry that includes hands-on activities, laboratory investigations, and teacher demonstrations. Students will be expected to apply algebra principles in solving both quantitative and qualitative problems. *(Co-enrollment at the same level with 1141/1142 Algebra 1- Honors or 1251/1252 Geometry & Analytic Geometry - High Honors) Meets Lab Science standards*

3247/3248 EXPLORATIONS IN BIOLOGY (LS) - College
10, 11, 12 2.5/2.5 Cr.

Explorations in Biology provides students a fundamental understanding of scientific concepts that make up the unified principles of life. Topics include the characteristics of life, the scientific method, cellular physiology and function, biochemistry, cellular respiration and photosynthesis, cell division and genetics. *Meets Lab Science standards*

3231/3232 BIOLOGY (LS) - College
10, 11, 12 2.5/2.5 Cr.

College Biology provides students an understanding of the scientific processes that make up the unified principles of life. Topics include the characteristics of life, the scientific method, cellular physiology and function, biochemistry, cellular respiration and photosynthesis, cell division and genetics. Emphasis is placed on the diversity and unity of the living world. *Meets Lab Science standards*

3241/3242 **BIOLOGY (LS) - Honors** **10, 11, 12** **2.5/2.5 Cr.**

Honors Biology challenges the abilities of the advanced student with an in-depth understanding of the scientific processes and concepts that make up the unified principles of life. Topics include the characteristics of life, the scientific method, cellular physiology and function, biochemistry, cellular respiration and photosynthesis, cell division and genetics. Emphasis is placed on the diversity and unity of the living world. **PREREQUISITE: 70 or above in Honors Integrated, 85 or above in College Integrated.** *Meets Lab Science standards*

Science Elective Courses

3731/3732 **Life Science I - (DE-UML) (LS) - Advanced** **11, 12** **2.5/2.5 Cr.**

This course presents environmental and organismal structural interrelationships and relates these to the chemical evolutionary basis of life. **PREREQUISITES:** Successful completion of English 2A and 2B (junior) or English 3A and 3B (senior), with a minimum grade of 80 in high honors, 85 in honors or 90 in a college level course. Students must also have an overall LHS GPA of 2.5 or better, a score of 480 or better on the PSAT or SAT verbal test, and a formal teacher recommendation from their Biology teacher. Completed enrollment in Honors Biology with a minimum grade of 85. *Meets Lab Science standards*

3250 **GENERAL BIOLOGY 1 - (DE - MCC) (LS) - Advanced** **11, 12** **2.5 Cr.**

General Biology studies the cell, the fundamental unit of biological structure and function. An introductory section on bioenergetics and biochemistry lay the groundwork for the consideration of the cell through a modern interdisciplinary approach. The course examines the ultrastructure of the cell and of the most universal cell functions: transport, cellular respiration, photosynthesis, cellular reproduction, and protein synthesis. Lecture themes are illustrated in the laboratory. **PREREQUISITES: Successful completion of English 2A and 2B (junior) or English 3A and 3B (senior), with a minimum grade of 80 in high honors, 85 in honors or 90 in a college level course. Students must also have an overall LHS GPA of 2.5 or better, a score of 480 or better on the PSAT or SAT verbal test, and a formal teacher recommendation from their Biology teacher. Completed enrollment in Honors Biology with a minimum grade of 85.** *Meets Lab Science standards*

3783 **MICROBIOLOGY (LS) - Honors** **11, 12** **2.5 Cr.**

Microbiology is the study of microscopic organisms, including bacteria, protozoa, fungi, parasitic worms, and viruses with emphasis on the role of these organisms in health and disease. This course is an intensive Laboratory Science that will demonstrate aseptic laboratory techniques, varied cultivation methods, and standard Biotechnology Diagnostic Procedures. *Meets Lab Science standards* **PREREQUISITE: 85 or above in Honors Biology.**

3331/3332 **CHEMISTRY (LS) - College** **10, 11** **2.5/2.5 Cr.**

College Chemistry develops qualitative understanding of fundamental chemistry concepts through teacher-guided inquiry that includes direct teacher instruction, solving of problem sets, hands-on class activities, laboratory investigations, and demonstrations. *Meets Lab Science standards* **PREREQUISITE: 75 or above in College Biology; 75 or above in college Algebra 1.**

3341/3342	CHEMISTRY (LS) - Honors	10, 11	2.5/2.5 Cr.
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Honors Chemistry is a mathematically based course with topics that include properties of matter, atomic structure, periodicity, and chemical bonding, chemical reactions and stoichiometry, gases and kinetic molecular theory, properties of solutions, acids and bases, and equilibrium and kinetics. *Meets Lab Science standards* **PREREQUISITE: 75 or above in Honors Algebra 1; 80 or above or concurrently enrolled in Honors Biology.**

3721/3722	CHEMISTRY - (DE - UML) - Advanced	11, 12	4/4 Cr.
3723/3724	CHEMISTRY LAB - (DE - UML) - Advanced	11, 12	1/1 Cr.

Dual Enrollment Chemistry is an advanced weighted University of Massachusetts course introducing the basic principles of chemistry and includes laboratory work. Topics include chemical calculations, atomic structure, the periodic table, basic bonding theory, solutions, liquids and gases, and thermodynamics. Students selecting this course may be required to take exams and/or do labs at the UML campus. UML Chemistry Lab runs simultaneously with this course. *Meets Lab Science standards* **PREREQUISITES: Successful completion of English 2A and 2B (junior) or English 3A and 3B (senior), with a minimum grade of 80 in high honors, 85 in honors or 90 in a college level course. Students must also have an overall LHS GPA of 2.5 or better, a score of 480 or better on the PSAT or SAT verbal test, and a formal teacher recommendation from their Chemistry teacher. Completed enrollment in Honors Chemistry with a minimum grade of 85.**

3441/3442	PHYSICS (LS) - Honors	11, 12	2.5/2.5 Cr.
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Honors Physics is an introduction to classical mechanics covering kinematics, Newton's laws, conservation laws, elasticity, fluids, oscillations, wave mechanics, sound phenomena, electricity, magnetism, electric circuits, and optics. *Meets Lab Science standards*

3461/3462	AP PHYSICS 1 -Advanced	11, 12	5/5 Cr.
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AP Physics 1 explores principles of Newtonian mechanics (including rotational motion); work, energy, and power; mechanical waves and sound; and introductory, simple circuits. The course is based on six Big Ideas, which encompass core scientific principles, theories, and processes that cut across traditional boundaries and provide a broad way of thinking about the physical world. **PREREQUISITES: No prior course work in physics is necessary. Students should have completed geometry and be concurrently taking Algebra II or an equivalent course. All AP courses require Department Head approval.**

3535	ESS: GEOLOGY - Honors	11, 12	2.5 Cr.
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Students will explain phenomena related to Earth's geological materials and systems, and develop models and explanations for the ways that feedbacks between different systems control the appearance of Earth's surface. The course will introduce Earth's interior processes and cycling of matter, with a focus on carbon cycling and an increase in carbon dioxide concentrations due to human activity.

3536	ESS: METEOROLOGY - Honors	11, 12	2.5 Cr.
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Students will explain phenomena related to Earth's meteorological materials and systems, and develop models and explanations for the ways that feedbacks between different systems control the appearance of Earth's surface. The course will introduce Earth's atmospheric processes and cycling of matter, with a focus on carbon cycling and an increase in carbon dioxide concentrations due to human activity.

3537 **ESS: OCEANOGRAPHY - Honors** **11, 12** **2.5 Cr.**

Students will explain phenomena related to Earth's hydrosphere and its systems, and develop models and explanations for the ways that feedbacks between different systems control the appearance of Earth's surface. The course will introduce the properties of water that affect Earth's materials and surface processes, with a focus on carbon cycling and an increase in carbon dioxide concentrations due to human activity.

3538 **ESS: ASTRONOMY - Honors** **11, 12** **2.5 Cr.**

This course introduces students to the components that make up our universe. Topics include the history of astronomy, big bang theory, the origin of our solar system; the lives and deaths of stars; the structure and composition of our moon, planets, stars, solar systems and galaxies.

3548 **GENETICS (LS) - Honors** **11, 12** **2.5 Cr.**

Genetics covers basic concepts of inheritance, variation and evolution in plants and animals, including a survey of Mendelian, molecular, cellular, and population genetics. Included will be an experiment involving breeding mutant *Drosophila* in order to discover Mendel's classic laws of inheritance. Students will learn about recent advances in biotechnology that have genetic implications, including the Human Genome Project and advances in genetic engineering technology. *Meets Lab Science standards. PREREQUISITE: 75 or above in Honors Biology. 85 or above in College Biology. 95 or above in Explorations of Biology.*

3541 **INTRODUCTION TO HUMAN ANATOMY (LS) - Honors** **11, 12** **2.5 Cr.**

Introduction to Human Anatomy is a preparatory program for students who are interested in pursuing careers in the Allied Health fields. The course is designed for students who want an introduction to the structures and functions of the human body. Students will participate in class discussions, lectures, projects, and laboratory activities.

3543/3544 **HUMAN ANATOMY & PHYSIOLOGY (LS) - Honors** **11, 12** **2.5/2.5 Cr.**

Human Anatomy & Physiology offers a systematic exploration of each of the major systems of the human body including both its structure (anatomy) and function (physiology) Anatomy and Physiology. Topics studied include: Human Body Overview and Terminology, Biochemistry, Tissue Structure and Function, The Integumentary System, The Skeletal System, The Muscular System, and The Nervous System. Students will participate in class discussions, lectures, projects, and laboratory activities. *Meets Lab Science standards Meets Lab Science standards PREREQUISITE: 75 or above in Honors Biology. 85 or above in College Biology*

3560 **FORENSICS SCIENCE - Honors** **12** **2.5 Cr.**

Forensic Science models the work of forensic scientists and to introduce the knowledge and laboratory techniques used by forensic scientists in their analysis of crimes and in the role of forensic evidence in criminal and civil proceedings. Investigative procedures include crime scene processing and reconstruction, fingerprinting, evaluation of injuries and cause of death. This course is highly recommended for students who have an interest in the field of law enforcement. *Meets Lab Science standards.*

3621 **STEM EDUCATION - Honors** **11** **2.5 Cr.**

This course will explore the ongoing efforts to improve the equity and quality of STEM education. Students will briefly examine the history of STEM education, and will learn about teaching

strategies unique to these fields. Students will investigate the future directions of STEM education and their effects on local, national, and global society. **PREREQUISITE: Students must have passed US-History**

3735 ENVIRONMENTAL STUDIES - (DE - MCC) (LS) - Advanced
11, 12 2.5 Cr.

Environmental Studies is an advanced weighted University of Massachusetts interdisciplinary course in ecological/environmental education designed to develop an understanding and awareness of our environment, how the environment can change and the effects of such change. The course explores the role which humans play in causing environmental change and the underlying values and ethical judgments involved in making choices. Includes the study of the structure and function of ecosystems, thermodynamics, and an examination of selected environmental problems. **MANDATORY: Students will participate in a capstone project using the engineering design process (EDP) to produce a working solution to an environmental pollution scenario. PREREQUISITES: Successful completion of English 2A and 2B (junior) or English 3A and 3B (senior), with a minimum grade of 80 in high honors, 85 in honors or 90 in a college level course. Students must also have an overall GPA of 2.5, a score of 480 or better on the PSAT or SAT verbal test, successful completion of Biology with a minimum grade of 80 in College or 85 in Honors and a formal teacher recommendation from their Biology teacher. Meets Lab Science standards**

3552/3553 SUSTAINABILITY CAREER EXPLORATIONS – Honors
11, 12 2.5/2.5 Cr.

This course will introduce students to the main components of renewable energy with a career path through self-assessment. Students explore a wide range of traditional and renewable energy sources and how these options impact our environment and society. Students are also exposed to the complex and compelling ethical issues raised by global, national and local changes in how we produce and use energy. Students who complete this course will be qualified for a full paid internship during the summer of 2018. *Students who successfully complete this course will receive 1 credit through MCC for course IDS 106- General Education Seminar.*

3618 CAREERS IN HEALTH & BIOSCIENCE - Honors 12 2.5 Cr.

Careers In Health & Bioscience introduces students to career pathways in healthcare and bioscience, such as allied health and medical support services. This will be accomplished through lectures, class discussions, research projects, field trips and professional guest speakers. The major topics of study in allied health are as follows: pharmacology, rehab services, dental services, gerontology, social services, nutritionist, health education, medical genetics, mental health, public health, emergency medical technicians, and pharmacy assistant. Topics to be covered under medical support services include managed care, administrative services, medical assisting, and medical office management. The major topics of study in physician/nurse are as follows: medical doctor, registered nurse, licensed practical nurse, physician's assistant, nurse practitioner, and certified nursing assistant. The topics to be covered in medical technology are as follows: radiology technician, respiratory technician, laboratory technician, orthopedic technician, vision technician, audiology and medical imagery.

3619 HEALTH & BIOSCIENCE INTERNSHIP - Honors 12 2.5 Cr.

Health & Bioscience Internship allows students to observe and practice skills and professional competencies needed to succeed in career pathways of healthcare and biotechnology. Students will relate what they learned in the Health and Bioscience Pathway to their Internship experience. This will be accomplished through participation in Health or Biotechnology Internships in the community. The internships will take place during the second through eighth weeks of the term, following CPR/First Aid training/certification and a one-week orientation. ***MANDATORY: Students will participate in a capstone project that will be completed on during non- internship days. PREREQUISITE: 75 or above in Medical Law & Ethics***

ENGINEERING

3911/3912	Introduction to Engineering Design (PLTW) (LS) - Honors	10, 11, 12	2.5/2.5
3921/3922	Principles of Engineering (PLTW) (LS) - Honors	11, 12	2.5/2.5
3971	Introduction to Engineering - (DE MCC) (LS) - Advanced	12	2.5
3953/3954	Robotics (LS) - Honors	10, 11, 12	2.5/2.5
3945/3946	Architectural Design (LS) - Honors	10, 11, 12	2.5/2.5
3978	Engineering Internship - Honors	12 2.5	

3911/3922 INTRODUCTION TO ENGINEERING DESIGN (PLTW) (LS) - Honors
10, 11, 12 2.5/2.5 Cr.

Introduction to Engineering Design (IED) is a high school level course that is appropriate for students who are interested in design and engineering. The major focus of the IED course is to expose students to the design process, research and analysis, teamwork, communication methods, global and human impacts, engineering standards, and technical documentation. IED gives students the opportunity to develop skills and understanding of course concepts through activity-, project-, and problem-based (APPB) learning. Used in combination with a teaming approach, APPB-learning challenges students to continually hone their interpersonal skills, creative abilities and understanding of the design process. It also allows students to develop strategies to enable and direct their own learning, which is the ultimate goal of education. Introduction to Engineering Design is the first of three foundation courses in the Project Lead The Way (PLTW) high school pre-engineering program. The course applies and concurrently develops secondary level knowledge and skills in mathematics, science, and technology. *Meets Lab Science standards.*
PREREQUISITE: 85 or above in College level Freshman Math course or 75 or above in Honors level Freshman Math course to enter as a sophomore.

3921/3922 PRINCIPLES OF ENGINEERING (PLTW) (LS) - Honors
11, 12 2.5/2.5 Cr.

Principles Of Engineering (POE) is a high school-level survey course of engineering. The course exposes students to some of the major concepts that they will encounter in a postsecondary engineering course of study. Students have an opportunity to investigate engineering and high tech career POE gives students the opportunity to develop skills and understanding of course concepts through activity-, project-, and problem-based (APPB) learning. Used in combination with a teaming approach, APPB learning challenges students to continually hone their interpersonal skills, creative abilities, and problem solving skills based upon engineering concepts. It also allows students to develop strategies to enable and direct their own learning, which is the ultimate goal of education. Principles of Engineering is the second of three foundation courses in the Project Lead The Way high school engineering program. *Meets Lab Science standards*
PREREQUISITE: 80 or above in 3911/3912 Introduction to Engineering Design (PLTW).

3953/3954 ROBOTICS - Honors **10, 11, 12 2.5/2.5Cr.**

Robotics is a hands-on environment designed to help students understand and master the fundamentals of robotics and the related principles of science. Students start out learning the basics of robotics, electricity and progress to controller/programmable robot platforms. Students also develop an understanding of robot applications from research projects, videos, class visits from academic and industry representatives and visits to companies specializing in the design or use of robots. *Meets Lab Science standards*

3945/3946 ARCHITECTURAL DESIGN - Honors 10, 11, 12 2.5/2.5 Cr.

Architectural Design introduces students to several concentration areas including regional and period architectural styles, interior and exterior design factors, environmental considerations, floor plan layout and site plan requirements. Sketching and modeling will be follow-on activities during the second semester designed to improve skills of capturing images for redesign and translating ideas and drawings into 3D models. *Meets Lab Science standards.*

3971 INTRO TO ENGINEERING - (DE MCC) - Advanced 12 2.5 Cr.

Principles and methods of engineering for students planning to transfer to a baccalaureate engineering program will be examined in depth. The course will introduce the student to engineering design methods and tools, and their application in solving engineering problems from various engineering disciplines. Skills required for career success such as teamwork, written and oral communication, and problem solving will be emphasized. ***PREREQUISITES: Successful completion of English 3A and 3B, with a minimum grade of 80 in high honors, 85 in honors or 90 in a college level course. Students must also have an overall GPA of 2.5, a score of 480 or better on the PSAT or SAT verbal test, and a formal teacher recommendation from their Engineering, Architecture, or Robotics teacher.***

3978 ENGINEERING INTERNSHIP - Honors 12 2.5 Cr.

Engineering Internship provides students with learning opportunities to observe and practice skills and professional competencies needed to succeed in the field of Engineering. Students will explore a specific area of Engineering related to their career interest through participation in an Engineering Internship in the community. Students will maintain a journal of experience's and will provide formal updates to classmates using various communication mediums. The internship will take place during the second through eighth week of second term. The student will be assigned a project based on their pathway course work and their internship experience. ***MANDATORY: Students will participate in a capstone project using the engineering design process (EDP) that will be completed during non-internship days. PREREQUISITE: Students must complete 10 credits in the Engineering Pathway before enrolling in the Engineering Internship.***

WORLD LANGUAGE

It is the goal of the World Language Department that every student achieves an ability to understand, speak, read and write in the target language, while at the same time developing global awareness and knowledge of different cultures. The completion of two years of the same foreign language satisfies the minimal high school foreign language prerequisite for entrance to most four-year colleges. It should be noted that many institutions of higher learning require three or four years of foreign language study at the high school level. This shows a level of commitment and sense of purpose.

It is strongly recommended that all students select one (1) World Language course. Parents and students should give careful consideration to which language they choose, as the students will not likely be able to change languages once they have returned their signed course selection worksheet to their guidance counselor. They may choose from a World Language offered at Advanced Placement, Honors, College, and Heritage Language Speaker level. A student may generally not elect a beginning level language class after the first two weeks of school unless there are extenuating circumstances. Students are advised to take the two years of a language consecutively, as leaving a gap between courses may jeopardize students' chances of passing. Students who choose to begin their language study at Lowell High School at the second or third year level should contact the Department Head for an interview or a placement exam. Heritage Language speakers will also take a placement exam to determine proper scheduling. During the 2020-2021 academic year, Latin will have honors and AP sections; Spanish will have separate honors and college sections for most levels; and French, Khmer and Portuguese will have the honors level. During this academic year we will also be looking at the possibility of students taking dual enrollment classes.

LATIN

2113/2114	Latin 1 - Honors	9, 10, 11, 12	2.5/2.5
2123/2124	Latin 2 - Honors	9, 10, 11, 12	2.5/2.5
2147/2148	Latin Prose - Advanced	11, 12	2.5/2.5
2149/2150	Latin Poetry - Advanced	11, 12	2.5/2.5

PORTUGUESE

2613/2614	Portuguese 1 - Honors	9, 10, 11, 12	2.5/2.5
2623/2624	Portuguese 2 - Honors	9, 10, 11, 12	2.5/2.5
2633/2634	Portuguese 3 - Honors	10, 11, 12	2.5/2.5
2643/2644	Portuguese 4 - Honors	11, 12	2.5/2.5
2651/2652	Heritage Portuguese 1 - Honors	9, 10, 11, 12	2.5/2.5

FRENCH

2313/2314	French 1 - Honors	9, 10, 11, 12	2.5/2.5
2323/2324	French 2 - Honors	9, 10, 11, 12	2.5/2.5
2333/2334	French 3 - Honors	10, 11, 12	2.5/2.5
2343/2344	French 4 - Honors	10, 11, 12	2.5/2.5
2361/2362	French Text, Film and Media	10, 11, 12	2.5/2.5

SPANISH

2511/2512	Spanish 1 - College	9, 10, 11, 12	2.5/2.5
2513/2514	Spanish 1 - Honors	9, 10, 11, 12	2.5/2.5
2521/2522	Spanish 2 - College	9, 10, 11, 12	2.5/2.5
2523/2524	Spanish 2 - Honors	9, 10, 11, 12	2.5/2.5
2531/2532	Spanish 3 - College	9, 10, 11, 12	2.5/2.5
2533/2534	Spanish 3 - Honors	9, 10, 11, 12	2.5/2.5
2535/2536	Spanish 3 - Advanced	10, 11	2.5/2.5
2541/2542	Spanish 4 - College	10, 11, 12	2.5/2.5
2543/2544	Spanish 4 - Honors	10, 11, 12	2.5/2.5
2545/2546	Spanish 4 (AP) - Advanced	11, 12	2.5/2.5
2553/2554	Spanish Conversation - Honors	10, 11, 12	2.5/2.5
2561/2562	Spanish Literature	10, 11, 12	2.5/2.5
2503/2504	Spanish 1 - Heritage Speaker - Honors	9, 10, 11, 12	2.5/2.5
2507/2508	Spanish 2 - Heritage Speaker - Honors	10, 11, 12	2.5/2.5

KHMER

2713/2714	Khmer 1 - Honors	9, 10, 11, 12	2.5/2.5
2723/2724	Khmer 2 - Honors	9, 10, 11, 12	2.5/2.5
2733/2734	Khmer 3 - Honors	10, 11, 12	2.5/2.5
2743/2744	Khmer 4 - Honors	11, 12	2.5/2.5

EXCEPTIONS TO PREREQUISITE REQUIREMENTS AS LISTED REQUIRE WRITTEN
APPROVAL OF THE DEPARTMENT HEAD

FRENCH

2313/2314 FRENCH 1 - Honors 9, 10, 11, 12 2.5/2.5 Cr.

French 1 - Honors is an accelerated course offered to students with no previous knowledge of French. Grammatical and idiomatic structures, reading, correct pronunciation, oral practice, listening comprehension, and customs and traditions of French-speaking countries are introduced at a quicker pace.

2323/2324 FRENCH 2 - Honors 9, 10, 11, 12 2.5/2.5 Cr.

French 2 - Honors provides a more detailed oral-aural continuation of fundamental grammar and progressively greater emphasis on reading and writing skills. Since most students are highly motivated and college-bound, this class proceeds as rapidly as possible to meet the highest standards of college entrance requirements. **PREREQUISITE: Successful completion of French 1 - Honors or permission of Department Head.**

2333/2334 FRENCH 3 - Honors 10, 11, 12 2.5/2.5 Cr.

French 3 - Honors entails written and oral work based on an analysis of texts. A total picture of grammar is presented with special emphasis on expanded idiom study. The student is required to do an adequate amount of reading both intensive and comprehensive. Pace of course is rapid. **PREREQUISITE: Successful completion of French 2 - Honors or permission of the Department Head.**

2343/2344 FRENCH 4 - Honors 11, 12 2.5/2.5 Cr.

French 4 - Honors encompasses an introduction to French literature through the reading of selected excerpts of masterpieces of the major genres and philosophies. Reading and analysis of text used as a basis for conversation including the study of the finer points of grammar and written expression. **PREREQUISITE: Successful completion of French 3 - Honors or permission of the Department Head.**

2361/2362 FRENCH TEXT FILM AND MEDIA - Honors 10, 11, 12 2.5/2.5 Cr.

This course presents a study of the contemporary language and culture of France and the Francophone world through authentic materials including the French press, the internet, television, literature and film. At the end of this course students should have attained a more sophisticated level of communication in French, the ability to use their skills in French for a variety of purposes including research in other disciplines, and a full appreciation of the intellectual challenge of learning a foreign language and its cultures. **PREREQUISITE: Permission of Department Head**

SPANISH

2511/2512 **SPANISH 1 - College** **9, 10, 11, 12** **2.5/2.5 Cr.**

Spanish 1 - College introduces the basics of a foreign language with an emphasis on correct pronunciation, formal grammar (verb tenses, pronouns, etc.), listening comprehension, reading and writing in the foreign language, and a study of the customs and traditions of the Spanish-speaking people. **Note: This is not generally an appropriate course for native speakers of Spanish.**

2513/2514 **SPANISH 1 - Honors** **9, 10, 11, 12** **2.5/2.5 Cr.**

Spanish 1 - Honors is an accelerated course focusing on grammatical and idiomatic structures, reading, correct pronunciations, oral practice, aural comprehension, and customs and traditions of Spanish-speaking countries are introduced at a quicker pace than Spanish 1 - College. **Note: This is not generally an appropriate course for native speakers of Spanish.**

2521/2522 **SPANISH 2 - College** **9, 10, 11, 12** **2.5/2.5 Cr.**

Spanish 2 - College - reviews the work of Spanish 1 and continues with a more concentrated study of grammar and an increased emphasis on the skills learned in the first year: speaking, listening comprehension, reading comprehension, writing in the foreign language, and an introduction to the history and geography of Spain and Latin America. **PREREQUISITE: A passing grade in Spanish 1 or Spanish 1 - Heritage Speaker.**

2523/2524 **SPANISH 2 - Honors** **9, 10, 11, 12** **2.5/2.5 Cr.**

Spanish 2 - Honors continues the development of grammar, aural and reading comprehension, speaking and writing for enjoyment. This class proceeds as rapidly as possible to meet the standards of college entrance requirements. **PREREQUISITE: Successful completion of Spanish 1 - Honors or permission of Department Head.**

2531/2532 **SPANISH 3 - College** **10, 11, 12** **2.5/2.5 Cr.**

Spanish 3 - College continues the work of Spanish 2 and introduces Spanish literature and art. **PREREQUISITE: Successful completion of Spanish 2**

2533/2534 **SPANISH 3 - Honors** **10, 11, 12** **2.5/2.5 Cr.**

Spanish 3 - Honors includes deeper work with grammar and emphasizes the finer points and idiomatic usage. The skills in writing, reading, and aural comprehension, together with oral expression are strengthened, and literature in Spanish is introduced. **PREREQUISITE: Successful completion of Spanish 2 - Honors with a minimum grade of 70 or permission of the Department Head.**

2535/2536 **SPANISH 3 AP - Advanced** **11** **2.5/2.5 Cr.**

Spanish 3 AP prepares the student for taking the AP Spanish Language Exam, this course will focus on grammar and writing, listening comprehension, picture stories, and spontaneous speaking as a preparation for taking the exam at the end of Spanish 4 AP. This is the first of a two year program. **PREREQUISITE: Successful completion of Spanish 2 - Honors with a minimum grade of 90 suggested, or permission of the Department Head. All AP courses require Department Head Approval.**

2541/2542 **SPANISH 4 - College** **11, 12** **2.5/2.5 Cr.**

Spanish 4 - College is a continuation of work done in Spanish 3 - College with emphasis on vocabulary building through a study of idiomatic expressions and selected readings. Aural comprehension and oral expression skills are strengthened. **PREREQUISITE: Successful completion of Spanish 3.**

2543/2544 **SPANISH 4 - Honors** **11, 12** **2.5/2.5 Cr.**

Spanish 4 - Honors is for those students who wish to perfect their skills in reading, writing and speaking Spanish. Literature is read and oral work is required. The finer points of grammar are studied. **PREREQUISITE: Successful completion of Spanish 3 - Advanced or successful completion of Spanish 3 - Honors or permission of the Department Head.**

2545/2546 **SPANISH 4 AP - Advanced** **11, 12** **2.5/2.5 Cr.**

A continuation course of Spanish 3 AP, this course is designed to complete the preparation for taking the AP Spanish Language Exam. This course will use a variety of materials to strengthen all four language skills: listening, speaking, reading, and writing. This is the second of a two year program. **PREREQUISITE: Successful completion of Spanish 3 - Advanced. A minimum grade of 80 in Semester 1 is required to continue. . All AP courses require Department Head Approval.**

2553/2554 **SPANISH CONVERSATION - Honors** **11, 12** **2.5/2.5 Cr.**

Spanish Conversation - Honors is an accelerated course offered to High Intermediate Limited Spanish proficient students who wish to express themselves on "everyday" topics. Students will utilize more advanced grammatical skills such as the subjunctive. This course is not a replacement for courses Spanish 3 or Spanish 4, although it may be elected in addition to them. **PREREQUISITE: Successful completion of Spanish 2 - Honors with a minimum grade of 70 or successful completion of Spanish 2 - College with a minimum grade of 85.**

2503/2504 **SPANISH 1 - HERITAGE SPEAKER - Honors** **9, 10, 11, 12** **2.5/2.5 Cr.**

Spanish 1 - Heritage Speaker is for students who have native listening/speaking skills in Spanish, and who seek to meet college entrance requirements. This course emphasizes correct pronunciation, formal grammar (verb tenses, pronouns, etc.), listening comprehension, reading and writing in the foreign language, and a study of the customs and traditions of the Spanish-speaking people. It will initially move at a quicker pace than Spanish 1 - Honors, and will have a different emphasis, - more on reading and writing structure, with a rapid review of basic vocabulary. **PREREQUISITE: Placement through exam or consultation with the Department Head.**

2507/2508 SPANISH 2 - HERITAGE SPEAKER - Honors 10, 11, 12 2.5/2.5 Cr.

Spanish 2 - Heritage Speaker is for students who have native listening/speaking skills in Spanish, and who seek to meet college entrance requirements. This course emphasizes correct pronunciation, formal grammar (verb tenses, pronouns, etc.), listening comprehension, reading and writing in the foreign language, and a study of the customs and traditions of the Spanish-speaking people. It will continue the work done in Spanish 1 - Heritage Speaker, and will have an increased emphasis on reading and writing structure, with additional vocabulary and cultural investigation. ***PREREQUISITE: Successful completion of Spanish 1 - Heritage Speaker.***

2561/2562 SPANISH LITERATURE - Honors 10, 11, 12 2.5/2.5 Cr.

Spanish Literature - Is for students who wish to further explore the rich literary heritage of Spain and the Spanish speaking world. Selected readings will provide the basis for stylistic and textual analysis and understanding of the structure of literary works and the cultures that produced them. Authors may include Lope de Vega, Miguel Cervantes, Isabel Allende, Gabriel Garcia Marquez, Jorge Luis Borges, and Carlos Fuentes among others. ***PREREQUISITE: Department Head Approval***

KHMER

2713/2714 KHMER 1 - Honors 9, 10, 11, 12 2.5/2.5 Cr.

Khmer 1 - Honors is an accelerated course offered to students who are doing honors level work. This course is an introduction to the Khmer language: basic grammar, conversation, reading, writing, and an introduction to the customs, traditions, and culture of Khmer-speaking people.

2723/2724 KHMER 2 - Honors 9, 10, 11, 12 2.5/2.5 Cr.

Khmer 2 - Honors reviews the work of Khmer 1 and continues with a more concentrated study of grammar and the alphabet, sounds and characters, reading and writing. Since most students are highly motivated and college-bound, this class proceeds as rapidly as possible to meet the standards of college entrance requirements. ***PREREQUISITE: Successful completion of Khmer 1 - Honors or permission of the Department Head.***

2733/2734 KHMER 3 - Honors 10, 11, 12 2.5/2.5 Cr.

Khmer 3 - Honors develops the skills of reading, writing, speaking, and listening are emphasized, especially in practical, every day usage at a deeper and faster pace. ***PREREQUISITE: Successful completion of Khmer 2 - Honors or permission of the Department Head.***

2743/2744 KHMER 4 - Honors 11, 12 2.5/2.5 Cr.

Khmer 4 - Honors improves a student's skills with authentic Khmer materials (legends, readers, tapes, etc.) being the primary focus of the class. ***PREREQUISITE: Successful completion of Khmer 3 -Honors or permission of the Department Head.***

CULINARY & FOODS

The Culinary Arts Program is for students interested in careers within the Food Service and/or Hospitality Industry. The Hospitality industry is one of the largest and fastest growing industries in the world. The Culinary Program is a three-year program that follows a rigorous academic curriculum, but it also provides “hands-on” training in a student-operated restaurant. Students are exposed to different cooking and baking techniques a variety of table services, and customer relations. All students complete the program with a portfolio and enough experience to secure an entry-level position within the Food Service and/or Hospitality Industry, although many choose to further their careers via the gateway to higher education. Food Related Courses provide an overview of the underlying science of cooking, and the role food plays in our daily lives in regards to diet and regional preferences.

CULINARY

5311/5312	Culinary Arts - Beginners - Honors	10, 11, 12	5/5
5313/5314	Culinary Arts - Intermediate - Honors	11, 12	5/5
5315/5316	Culinary Arts - Advanced - Honors	12	5/5
5317/5318	Hospitality Internship - Honors	12	2.5/2.5

Culinary Arts classes are block classes and run for 2 periods

FOODS

5085	The Science of Cooking - College	9, 10, 11, 12	2.5
5087	Nutrition and Dietary Choices - College	9, 10, 11, 12	2.5
5086	Regional Cuisine - College	9, 10, 11, 12	2.5
5088	International Foods - College	9, 10, 11, 12	2.5

BUSINESS RELATED COURSES

6111/6112	Accounting - College	10, 11, 12	2.5/2.5
6113/6114	Accounting - Honors	10, 11, 12	2.5/2.5
6309	Marketing- College	10, 11, 12	2.5
6313/6314	Entrepreneurship - Honors	10, 11, 12	2.5/2.5
6353	Tourism and Hotel Management - College	10, 11, 12	2.5

CULINARY COURSES

5311/5312 CULINARY ARTS - Beginner - Honors 10, 11, 12 5/5 Cr.

Culinary Arts - Beginner teaches students how to be successful restaurant employees. Students learn to prepare foods and bakery items sold in the student-operated Daniel P. Kane Courtyard Restaurant. Students learn cooking, baking, and dining room service according to guidelines produced by the Massachusetts Restaurant Association and the Massachusetts Board of Health. Students learn the theory behind the restaurant's operation. This course meets every day for two periods. Good attendance is imperative. Students will produce a personal portfolio. **NOTE: This class meets every day for two periods.**

5313/5314 CULINARY ARTS - Intermediate - Honors 11, 12 5/5 Cr.

Culinary Arts - Intermediate is a follow-up course to Culinary Arts Beginners. Students receive further instruction in food preparation for the Daniel P. Kane Courtyard Restaurant. Several college presentations will explore higher education opportunities in the culinary arts field. Students will update their personal portfolio and have the opportunity become ServSafe certified, recognized by the National Restaurant Association. **NOTE: This class meets every day for two periods. PREREQUISITE: Successful completion of Culinary Arts - Beginner**

5315/5316 CULINARY ARTS - Advanced - Honors 12 5/5 Cr.

Culinary Arts - Advanced for the third year Culinary Arts student. While working in the Daniel P. Kane Courtyard Restaurant, students will work independently on various tasks and projects. These students will also explore the many facets of onsite catering. **NOTE: This class meets every day for two periods. PREREQUISITE: Successful completion of Culinary Arts - Intermediate**

5317/5318 HOSPITALITY INTERNSHIP - Honors (S1) 10, 11, 12 2.5/2.5 Cr.

Hospitality Internship students who desire to further their culinary background and gain work experience. These students support staff in preparing daily soups, and breakfast pastry for the student-operated Daniel P. Kane Courtyard Restaurant. **NOTE: This internship meets every day for one period. PREREQUISITE: Permission of the teacher.**

FOODS COURSES

5085 THE SCIENCE OF COOKING - College (S1) 9, 10, 11, 12 2.5 Cr.

The Science of Cooking encompasses a variety of food related subjects and offers basic cooking skills that are important for everyone to have. Take a heaping bowl of nutrition, sprinkle with science, and stir in a dash of writing. Blend in a pinch of mathematics and simmer. Serve with cooking techniques and culinary skills. Explore the relationship between food and a variety of subjects across the curriculum.

5087 NUTRITION AND DIETARY CHOICES - College (S2) 9, 10, 11, 12 2.5 Cr.

In today's world people's food choices have a direct impact on their health and wellbeing along with an impact on their wallet. Take a peek into carnivore, herbivore, vegetarian and vegan lifestyles while exploring the new lifestyle of organic foods, farm-to-table diets, paleo diets, and other alternative diet choices. Let's explore the science of diets and how it can impact your lifestyle.

5086 REGIONAL CUISINES - College (S1) 9, 10, 11, 12 2.5 Cr.

Travel our 50 states to find the best foods America has to offer. This course explores the awesome foods this country has to offer both now and throughout history. Learn about the regional foods of the United States geographically, historically and tastefully.

5088 INTERNATIONAL FOODS - College (S2) 9, 10, 11, 12 2.5 Cr.

Join us as we explore foreign foods from around the world both familiar and unique. We'll visit the four corners of the world learning about foods and cultures of countries in Europe, Asia, Africa and the Americas. Broaden your knowledge of geography, history, foreign customs and foods from our friends around the world.

BUSINESS – MARKETING & FINANCE

The Business - Marketing & Finance Department offers electives that benefit all students allowing students to attain marketable skills in accounting, finance, marketing and sales and offering industry certification in OSHA and Customer Service and Sales (National Retail Federation). Articulation agreements with Middlesex Community College allow you to skip introductory courses saving you money as you head off to college.

You can take courses in the Business Department using two different routes. You may choose to become part of the Business Marketing and Finance Pathway and benefit from a defined course of study. You can also choose just to explore the world of business through various electives.

Another exciting opportunity offered to students through the Business Department is the chance to compete academically with schools around the country through the affiliation with Business Professionals of America (BPA) and Network for Teaching Entrepreneurship (NFTE).

BUSINESS – MARKETING & FINANCE COURSES

6111/6112	Accounting - College*	10, 11, 12	2.5/2.5
6113/6114	Accounting - Honors*	10, 11, 12	2.5/2.5
6211	Business Law 1 - College*	10, 11, 12	2.5
6212	Business Law 2 - College*	10, 11, 12	2.5
6213	Business Law 1 - Honors*	10, 11, 12	2.5
6214	Business Law 2 - Honors*	10, 11, 12	2.5
6141	Personal Finance - College*	10, 11, 12	2.5
6143	Personal Finance - Honors*	10, 11, 12	2.5
6161	Intro to Financial Services (JDCU) - Honors*	12	2.5
6309	Marketing - College*	10, 11, 12	2.5
6317	Digital/Social Media Marketing - Honors	10, 11, 12	2.5
6313/6314	Entrepreneurship - Honors*	10, 11, 12	2.5/2.5
6315	Retail Marketing - Honors	11, 12	2.5
6350	Sports & Entertainment Marketing - College	10, 11, 12	2.5
6353	Tourism and Hotel Management - College	10, 11, 12	2.5
6015	Microsoft Office Specialist - College	10, 11, 12	2.5

*Articulated Courses with MCC. Students must receive a grade of 80 or better.

BUSINESS – MARKETING & FINANCE COURSES

COLLEGE SKILLS

6015 **MICROSOFT OFFICE SPECIALIST - College** **10, 11, 12** **2.5 Cr.**

You will get a taste of the business world as you become a Microsoft Office Specialist using real-world simulations. You will use critical thinking and computer applications skills to plan, create, revise and produce a wide variety of real-world documents for three different clients. You will become proficient using Microsoft Word, Excel and PowerPoint. You will love the engaging projects in this simulation.

ACCOUNTING

6111/6112 **ACCOUNTING - College** **10, 11, 12** **2.5/2.5 Cr.**

Accounting is the math you can do! Whether you are going to work for a small business or start your own business, you will always use financial skills. Accounting provides financial information to users for making decisions. In this detailed oriented class you will develop problem solving, critical thinking and financial literacy skills through a step-by-step instructional approach utilizing an Internet based accounting program. You will learn accounting principles and practical applications as you experience the challenges of operating an event-planning service business.

PRECISION EXAM CAREER SKILLS CERTIFICATION OPPORTUNITY

MCC ARTICULATION: BUS120 Intro to Accounting I

6113/6114 **ACCOUNTING - Honors** **10, 11, 12** **2.5/2.5 Cr.**

Whether you are going to invest in a business, work for a multimillion-dollar company, or start your own business, you will always use financial information. Accounting provides financial information to users for making decisions. In this challenging and fast-paced class you will develop problem solving, critical thinking and financial literacy skills through a step-by-step instructional approach utilizing an Internet based accounting program. You will encounter accounting principles and practical applications as you experience the challenges of operating an event-planning service business.

PRECISION EXAM CAREER SKILLS CERTIFICATION OPPORTUNITY

MCC ARTICULATION: BUS120 Intro to Accounting

BUSINESS LAW

6211 BUSINESS LAW 1 - College 10, 11, 12 2.5 Cr.

You will enjoy this course if you have an interest in the law and how our legal system works. Over the course of the semester, you will be introduced to both criminal and civil law along with the Bill of Rights. You will also learn about employment law and the various forms of businesses.

PRECISION EXAM CAREER SKILLS CERTIFICATION OPPORTUNITY

MCC ARTICULATION: LGL102 Business Law

6212 BUSINESS LAW 2 - College 10, 11, 12 2.5 Cr.

This course will expand your legal knowledge base, providing you with an understanding about the laws that affect you every day. The focus of the course is contract law along with consumer law; sales contacts; consumer protection laws; Cyber law; Cybercrime and E-Commerce through internet transactions. You will also receive industry certification by completing the OSHA 10-hour training course, which is designed to teach workplace safety.

PRECISION EXAM CAREER SKILLS CERTIFICATION OPPORTUNITY
OSHA CERTIFICATION OPPORTUNITY

MCC ARTICULATION: LGL102 Business Law

6213 BUSINESS LAW 1 - Honors 10, 11, 12 2.5 Cr.

You will enjoy this course if you have an interest in the law and how our legal system works. Over the course of the semester, you will be introduced to both criminal and civil law along with the Bill of Rights. You will also learn about employment law and the various forms of businesses. In this course, you will be participating in mock trials, allowing you to practice your courtroom skills.

PRECISION EXAM CAREER SKILLS CERTIFICATION OPPORTUNITY

MCC ARTICULATION: LGL102 Business Law

6214 BUSINESS LAW 2 - Honors 10, 11, 12 2.5 Cr.

This course will expand your legal knowledge base, providing you with an understanding about the laws that affect you every day. The focus of the course is contract law along with consumer law; sales contacts; consumer protection laws; Cyber law; Cybercrime and E-Commerce through internet transactions. You will also receive industry certification by completing the OSHA 10-hour training course, which is designed to teach workplace safety.

PRECISION EXAM CAREER SKILLS CERTIFICATION OPPORTUNITY
OSHA CERTIFICATION OPPORTUNITY

MCC ARTICULATION: LGL102 Business Law

FINANCE

6141 PERSONAL FINANCE - College 10, 11, 12 2.5 Cr.

Personal Finance will enable you to take control of your financial destiny by educating yourself on the way in which finances impact your daily life as well as your future. You will learn strategies to manage money responsibly, set financial goals and make daily financial decisions which affect your life. From budgeting to taxes, from credit cards to buying a car, students will be exposed to a variety of skills and will have the opportunity to learn and apply these skills in an interactive simulation. The course culminates with a simulation where students choose the direction of their lives and make all financial and career decisions.

MCC ARTICULATION: BUS121 Personal Money Management

6143 PERSONAL FINANCE - Honors 10, 11, 12 2.5 Cr.

Personal Finance will enable you to take control of your financial destiny by educating yourself on the way in which finances impact your daily life as well as your future. You will learn strategies to manage money responsibly, set financial goals and make daily financial decisions which affect your life. From budgeting to taxes, from credit cards to buying a car, you will be exposed to a variety of skills and will have the opportunity to learn and apply these skills in an interactive simulation. Personal Finance - Honors will delve deeper into investing and building a financial portfolio than Personal Finance - College. The course culminates with a simulation where students choose the direction of their lives and make all financial, investment and career decisions.

PRECISION EXAM CAREER SKILLS CERTIFICATION OPPORTUNITY

MCC ARTICULATION: BUS121 Personal Money Management

6161 INTRO TO FINANCIAL SERVICES (JDCU) - Honors 12 2.5 Cr.

Introduction to Financial Services will include the basic principles and practices of credit unions and the financial industry. You will be exposed to accounting, technology, clerical and back office tasks, as they develop confidence under the guidance of a credit union professional. Upon completion of this course you will have a solid understanding of financial concepts, and will possess employable skills including cash handling, member service interaction, organization and teamwork. This authentic learning permits you to explore hands-on, real-life situations and problem solving coupled with independent practice.

MCC ARTICULATION: BUS124 Cooperative Field Experience I

PREREQUISITE: Successful completion of a business course and permission of Department Head and Branch Supervisor.

MARKETING

6309 **MARKETING - College** **10, 11, 12** **2.5 Cr.**

This course introduces you to the field of marketing. Marketing is the process of planning, pricing, promoting, selling, and distributing ideas, goods, and services to create exchanges that satisfy customers and return profits to the business. You will be introduced to content marketing, which is strategic approach that focuses on creating and distributing valuable, relevant, and consistent content to attract and retain a clearly defined audience. That content will focus on the basic marketing functions; finance, market research, sales and promotions which includes social media. The course addresses areas of publicity, advertisement design, visual merchandising, infographics, branding and the selling process.

PRECISION EXAM CAREER SKILLS CERTIFICATION OPPORTUNITY

6317 **DIGITAL/SOCIAL MEDIA MARKETING - Honors** **10, 11, 12** **2.5 Cr.**

Digital/Social Media Marketing prepares you for this evolving world of technology by providing foundational skills in digital marketing, social network platforms, and analytics. Tweets and emoji are terms that did not exist even a decade ago and yet they are now part of everyday speech and will be replaced by the next best technology trend. While technology trends come and go, longstanding marketing principles are embedded throughout the course so you learn to successfully navigate a continually changing environment while applying tried-and-true marketing methods. You will also explore and assess how to maintain marketing integrity in an age of over sharing, open-source collaboration, and dynamic technology advancements.

PRECISION EXAM CAREER SKILLS CERTIFICATION OPPORTUNITY

6313/6314 **ENTREPRENEURSHIP - Honors** **10, 11, 12** **2.5/2.5 Cr.**

You will use your entrepreneurial skills and mindset to evolve a solution to a problem into a business opportunity. The classroom provides an engaging opportunity for you to work weekly in group investigations, knowledge explorations and learning lab days to apply many of the 21st century soft skills needed by any future employee in our world. Towards the end of the school year, you will have opportunities to pitch your business opportunities to judges in local, regional, and national competitions. A representative from the Network for Teaching Entrepreneurship (NFTE) will join the classroom throughout the year to make learning fun and rewarding.

MCC ARTICULATION: BUS240 Principles of Marketing

6315/6316 **RETAIL MARKETING - Honors** **11, 12** **2.5/2.5 Cr.**

This specialized hands-on course enables you to refine your business skills in a realistic business setting. Your laboratory is The 1826 School Store in which you will engage in marketing, merchandising, and management as you work directly with the public while operating of a small store. Due to the unique structure of this course, excellent attendance is mandatory. **Students can only take this course once.** **PREREQUISITE: Successful completion of two business courses with a passing grade of 70 or above.**

NRF CERTIFICATION OPPORTUNITY

6350 **SPORTS & ENTERTAINMENT MARKETING - College** **10, 11, 12** **2.5 Cr.**

The focus of this course are the basic principles of marketing and how they relate specifically to the sports and entertainment industries. You will take part in a semester long simulation where you are running a stadium, booking concerts and setting ticket prices to maximize profits. You will also have a unique opportunity of creating a marketing plan to present to a member of the New England Patriots Marketing staff as part of a field trip to Gillette Stadium.

PRECISION EXAM CAREER SKILLS CERTIFICATION OPPORTUNITY

6353 **TOURISM AND HOTEL MANAGEMENT - College** **10, 11, 12** **2.5 Cr.**

You will have an opportunity to explore the hospitality and tourism industry with a simulation that focuses on the day-to-day operations of a full service hotel. You will learn about the types of business decisions that go into running a high-end successful hotel. Hands-on projects will round out your knowledge of the travel industry with the option to travel the world from your seat or through a variety of educational tours offered with LHS educators. Additionally, if you successfully complete the simulation you will be able to apply for the American Hotel and Lodging Educational Institute certification for the Hospitality Tourism and Management industry.

FINE ARTS

The mission of the Fine Arts Program at Lowell High School is to provide all students with high-quality learning opportunities where arts skills, critical thinking, and creative problem solving are emphasized. The program encourages creativity and strives to develop each individual's artistic voice. Central to this creative work is utilizing one's risk-taking, curiosity, and collaborative abilities, thereby building student self-confidence and resiliency. Our Fine Arts programming supports the development of 21st century skills, which extend student learning outside the classroom and make connections across academic content areas. Our curriculum focuses on the development of creative sensitivities and technical proficiencies in the arts while bolstering arts literacy and creative self-expression.

PERFORMING ARTS

MUSIC

7137/7138	Band - Honors	9	2.5/2.5
7139/7140	Advanced Band & Marching Band - Honors	9, 10, 11, 12	2.5/2.5
7297/7298	Show Choir: Soundsations - Honors	9, 10, 11, 12	2.5/2.5
7299/7300	Show Choir: Sound Impressions - Honors	10, 11, 12	2.5/2.5
7339/7340	Concert Chorus - Honors	9,10,11,12	2.5/2.5

THEATER

7411	Theater 1	9, 10, 11, 12	2.5/2.5
7412	Theater 2	9, 10, 11, 12	2.5/2.5

DANCE

7905/7906	Dance 1 & 2: Modern and Jazz Technique - Honors	9, 10, 11, 12	2.5/2.5
7907/7908	Dance 3 & 4: Technique and Composition - Honors	10, 11, 12	2.5/2.5
7953/7954	Advanced Dance Studies and Choreography - Honors	11, 12	2.5/2.5
7983/7984	Senior Dance Project - Honors	12	2.5/2.5

MUSIC ELECTIVES

7131	Guitar & Music Theory - Honors	9, 10, 11, 12	2.5
7121	Piano & Music Theory - Honors	9, 10, 11, 12	2.5
7133	World of Drums - Honors	9, 10, 11, 12	2.5

VISUAL ARTS

DIGITAL AND MEDIA ARTS

7825/7826	Introduction to Digital Media Production - Honors	9, 10, 11, 12	2.5/2.5
7829/7830	Advanced Digital Media Production - Honors	11, 12	2.5
7835/7836	Digital Film Production - Honors	11, 12	2.5/2.5
7871	Film and Society (DE - MCC) - Advanced	11, 12	2.5
7872	Film Studies I - Honors	11, 12	2.5
7873	Film Studies II: The Director's Cut - Honors	11, 12	2.5
7715/7716	Digital Photography - Honors	9, 10, 11, 12	2.5/2.5
7773	Animation - Honors	10, 11, 12	2.5
7747/7748	Introduction to Graphic Design - Honors	10, 11, 12	2.5/2.5
7758	Advanced Graphic Design - Honors (S1)	11, 12	2.5
7760	Graphics I (DE - MCC) (S2) - Advanced	11, 12	2.5

STUDIO ARTS

7513/7514	Introduction to Art I, II - Honors	9, 10, 11, 12	2.5/2.5
7593/7594	Drawing & Painting I, II - Honors	10, 11, 12	2.5/2.5
7623/7624	Sculpture & Ceramics I, II - Honors	10, 11, 12	2.5/2.5
7771/7772	Visual Storytelling I, II - Honors	10, 11, 12	2.5/2.5
7543/7544	Advanced Art - Honors	11, 12	2.5/2.5

EXCEPTIONS TO PREREQUISITE REQUIREMENTS AS LISTED REQUIRE A PORTFOLIO REVIEW
BY THE INSTRUCTOR AND DEPARTMENT CHAIR

***FOR SY 2020-2021, ANY PRIOR STUDIO ART CLASS WILL SERVE AS THE PREREQUISITE FOR
Drawing & Painting, Sculpture & Ceramics, and Visual Storytelling courses***

PERFORMING ARTS

MUSIC

7137/7138 BAND (FY) - Honors 9, 10, 11, 12 2.5/2.5 Cr.

Band is for first year Lowell High School students that have participated in middle school band or have an interest in learning brass, woodwind or percussion instruments. The band allows students to learn and develop musical skills and performs throughout the year at various community and school events including seasonal concerts, football games, parades and music festivals.

7139/7140 ADVANCED BAND & MARCHING BAND (FY) – Honors 9, 10, 11, 12 2.5/2.5 Cr.

Advanced Band & Marching Band is for students that have fully participated in middle school band or students with prior experience on brass, woodwind or percussion instruments. The band performs throughout the year at various community and school events including seasonal concerts, parades and music festivals. The band also travels, performing in other communities, maintaining a reputation for excellence. This Band requires weekly nighttime practices, many outside performances, competitions, parades, football games and festivals each year. Students will learn music at a high difficulty level required for competition and performance. Student attendance at after school, evening and weekend rehearsals and performances are **mandatory** and are a requirement of the course. ***Meets Physical Education Requirement. PREREQUISITE: Successful completion of 7137/7138 BAND (FY) or equivalent and must play a band instrument.***

7297/7298 SHOW CHOIR: SOUNDSATIONS- Honors 9, 10, 11, 12 2.5/2.5 Cr.

Soundsations is a co-curricular women's ensemble class for Lowell High School students which includes afterschool evening rehearsals, a variety of out of school performances, 4-5 competitions, and a festival each year. Soundsations includes singing and dancing regularly during the school day and during after school rehearsals. Students will learn music and dances at a high difficulty level required for competition. Student attendance at after school, evening, and weekend rehearsals and performances is mandatory and is a requirement of the course. Show Choir classes are auditioned classes. Students must perform independently or in small groups annually to determine placement in the group. ***Meets physical education requirement. PREREQUISITE: Audition. Note: Attending evening practices and out of school performances outside of school are required. There is a financial commitment that must be met for this group through fundraising.***

7299/7300 SHOW CHOIR: SOUND IMPRESSIONS - Honors 10, 11, 12 2.5/2.5 Cr.

Sound Impressions is a co-curricular mixed choir class for advanced students, which includes after-school evening rehearsals, a variety of out-of-school performances, 4-5 competitions, and a festival each year. Sound Impressions includes singing and dancing regularly during the school day and during after school rehearsals. Students will learn music and dances at a high difficulty level required for competition. Student attendance at after school, evening, and weekend rehearsals and performances is mandatory and is a requirement of the course. This is an auditioned class. Students must perform independently or in small groups annually to determine placement in the group. ***Meets Physical Education Requirement. PREREQUISITE: Audition. Note: Attending evening practices and out of school performances outside of school is required. There is a financial commitment that must be met for this group through fundraising.***

7339/7340 **CONCERT CHORUS - Honors** **9, 10, 11, 12** **2.5/2 5 Cr.**

Concert choir is a mixed ensemble that performs music from various genres, time periods and languages. Students perform at the annual winter and spring concerts and other performance opportunities as they arise. There is no dance requirement for this ensemble and no prior experience is needed. All performances (during school & after school) are graded requirements for this class.

THEATER

7411 **THEATER 1 - Honors** **9, 10, 11, 12** **2.5 Cr.**

Theater 1 is a beginning course that focuses on basic foundations and techniques in acting, improvisation, character analysis, and movement. Students will be required to perform regularly for the class as well as complete quarterly projects. Actors will focus on enhancing their skills through improvisation and monologues in a masterclass setting. The course of study will also include learning the theories of important theorists such as Stanislavski, Spolin, and Chekhov.

7412 **THEATER 2 - Honors** **9, 10, 11, 12** **2.5 Cr.**

Theater 2 is an intermediate course in acting that is a continuation of Theatre 1. In this course, actors work on two-person scenes, group scenes, and will end the course with a performance of a play. This class will require an after school performance at the end of the semester and students will complete quarterly projects.. Students will be expected to perform regularly for the class. The course study will also include studying the theories of Sanford, Meisner, Suzuki, and Hagan.

DANCE

7905/7906 **DANCE 1 & 2: MODERN AND JAZZ TECHNIQUE - Honors**
9, 10, 11, 12 **2.5/2.5 Cr.**

Modern & Jazz Technique introduces the fundamentals of modern and jazz dance. Content to be covered includes daily warm- up exercises, the study of technique, basic combinations, improvisation and performance-based pieces. Students will also learn about the history of dance, other dance forms, and styles as well as the cultural and social aspects of the various forms. Projects and studio performance are part of the assessment criteria. Attendance at scheduled performances is mandatory. These are the first and second classes in a series of four core dance classes. ***Meets Physical Education Requirement.***

7907/7908 **DANCE 3 & 4: TECHNIQUE AND COMPOSITION - Honors**
10, 11, 12 **2.5/2.5 Cr.**

Technique and Composition is for those students who want to continue with the study of dance. Content will include more complex stretches and combinations as well as the continued study of improvisation, composition skills, dance history and theory. Projects and studio performances are part of the assessment. Attendance at scheduled performances is mandatory. This is the third and fourth classes in a series of four core dance classes. ***PREREQUISITE: Successful completion of 7905/7906 Dance 1&2: Modern and Jazz Technique. Meets Physical Education Requirement.***

7953/7954 ADVANCED DANCE STUDIES AND CHOREOGRAPHY - Honors
11, 12 **2.5/2.5 Cr.**

Advanced Dance Studies and Choreography offers the serious dancer a chance to continue with her/his study of dance at a more advanced level. Personal exploration through an in-depth study of improvisation as well as technique and choreography will be the main focus in this class. Assessments will include written work and on-going studio performances and exhibitions. Attendance at scheduled performances is mandatory. **PREREQUISITES: Successful completion of 7905/7906 Dance 1 & 2: Modern and Jazz Technique AND Dance 3 & 4: Technique and Composition (minimum grade of 75) and recommendation of the teacher and/or Department Chair. Meets Physical Education Requirement.**

7983/7984 SENIOR DANCE PROJECT - Honors **12** **2.5/2.5 Cr.**

Senior Dance Project will explore a personal movement style and at the same time investigate the styles of dance masters throughout history. Students will continue to study dance theory, abstract movement, improvisation, composition, and critical evaluation of dance and the arts. **PREREQUISITE: Successful completion of Advanced Dance Studies and Choreography and recommendation of the teacher and/or Department Chair. Meets Physical Education Requirement.**

MUSIC ELECTIVES

7121 BEGINNING PIANO & THEORY - Honors **9, 10, 11, 12** **2.5 Cr.**

Beginning Piano & Theory students will learn to play the piano in a lab setting. Each student will have access to a piano and will work at his/her own pace. Students will acquire basic music theory to enhance their piano performance. This course is meant for students who have no piano and/or music theory experience.

7131 GUITAR & MUSIC THEORY - Honors **9, 10, 11, 12** **2.5 Cr.**

Beginning Guitar & Theory students will learn to play the guitar in a lab setting. Each student will have access to a guitar and will work at his/her own pace. Students will also acquire basic music theory to enhance their guitar performance. This class is meant for students who have no guitar and/or music theory experience.

7133 WORLD OF DRUMS - Honors **9, 10, 11, 12** **2.5 Cr.**

World of Drums allows students to explore percussion music from around the world, learning techniques for playing drums, cymbals, keyboard instruments, and hand percussion. The class will function as a percussion ensemble that will study Contemporary, Latin, Asian, and African music. Emphasis will be placed on the development of drumming skills and techniques.

VISUAL ARTS

DIGITAL AND MEDIA ARTS

7825/7826 INTRODUCTION TO DIGITAL MEDIA PRODUCTION - Honors
9, 10, 11, 12 2.5/2.5 Cr.

Introduction to Digital Media Production provides an overview of the history, as well as the basic concepts and technical aspects of media studio production, public service announcements, station IDs, and electronic newsgathering. Students will learn to operate all of the equipment housed in our portable and in-house studios: cameras, audio board, teleprompter, playback decks, lighting board, and video switcher. In addition, students will develop pre-production planning and production management skills, and learn how to create videos using portable cameras and non-linear editing equipment. **Students will be required to participate in one remote studio production per quarter that will take place after regular school hours.** *MCC ARTICULATION: COM121 Introduction to TV Production for students in grades 11 and 12.*

7829/7830 ADVANCED DIGITAL MEDIA PRODUCTION - Honors
11, 12 2.5 Cr.

Advanced Digital Media Production students will learn advanced media news broadcasting techniques, including how to create a news oriented feature package and how integrate live graphics and roll-ins into a broadcast. ***Students will be required to participate in regular remote studio productions that will take place after regular school hours.** *PREREQUISITE: Successful completion of Introduction to Digital Media Production.*

7835/7836 DIGITAL FILM PRODUCTION - Honors
11, 12 2.5/2.5 Cr.

Film is the most important mass medium and art form of the 21st century. Films shape our perceptions and communication. It has transformed our way of seeing and storytelling. In this course, students will go through the process of screenwriting and storyboarding. Then students will learn shot composition and how to shoot a sequence with DSLR cameras and edit footage to create a movie.

7871 FILM AND SOCIETY - (Dual Enrollment MCC) - Advanced
11, 12 2.5 Cr.

This course introduces students to the language of film analysis (mise-en-scene, cinematography, editing, and sound), as well as the elements of film form and narrative structure. Additionally, students are exposed to a broad overview of the historical developments and social implications of the medium.

7872 FILM STUDIES 1 - Honors
11, 12 2.5 Cr.

Students learn how to “read” film techniques to gain insight into their expressive possibilities. Selected films are analyzed for explicit and implied meanings and to understand how they reflect the values and beliefs of the times and culture that they come from.

7873 **FILM STUDIES 2: THE DIRECTOR'S CUT - Honors** **11, 12** **2.5 Cr.**

In this course we will look at specific directors' films and analyze their style. We will look at four directors' movies and discover what makes their specific style unique and how they communicate their vision through filmmaking. **PRE-REQUISITE: 85 in Film, Video and Society or Film Studies 1.**

7715/7716 **DIGITAL PHOTOGRAPHY - Honors** **9, 10, 11, 12** **2.5/2.5 Cr.**

Digital Photography explores the artistic qualities of modern digital photography. Students will learn the fundamentals of using a digital camera, computer and printer to create unique images. Additionally, students will learn how to manipulate and transform their images using Adobe Photoshop. A study of professional digital photographers combines with hands-on projects to complement the technical coursework.

7773 **ANIMATION - Honors** **10, 11, 12** **2.5 Cr.**

Animation will explore the international history of animation as well as animation principles and techniques. Students will use Adobe and other apps as well as hand drawn techniques to create original animations. Drawing, script writing/storyboarding, character design and background art will be explored and self-expression will be emphasized. **Prerequisite: Completion of Introduction to Art I & II or successful portfolio review by Instructor and Department Chair.**

7747/7748 **INTRODUCTION TO GRAPHIC DESIGN - Honors** **10, 11, 12** **2.5/2.5 Cr.**

Introduction to Graphic Design merges the strength of solid principles of art and design with the technology of today. In this course, students will learn to manipulate, create and produce digital art forms using Adobe Photoshop. Students will understand the entire design process and take an idea from the concept state to the finished product. Students will be encouraged to express themselves artistically while discovering the powerful tools of digital technology. In the second semester, students will learn how to use the program Adobe Illustrator and understand how to use the computer as a drawing tool. While developing the basic principles of layout design and will take an in-depth look at typography as an art form. Students will be encouraged to develop a creative approach to computers and software as well as a discerning eye towards the visual message.

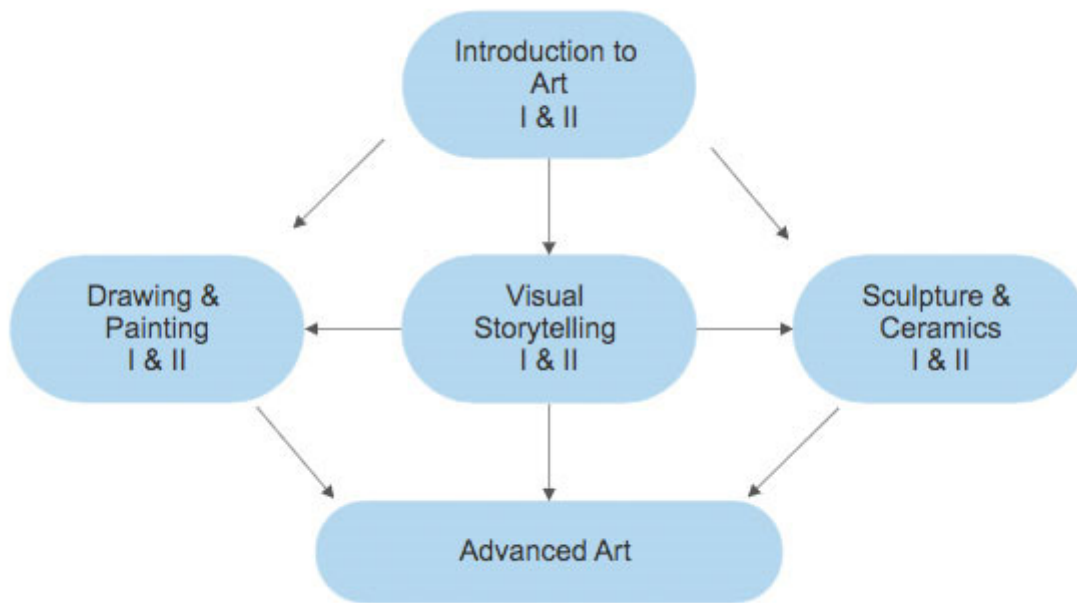
7758 **ADVANCED GRAPHIC DESIGN - Honors** **11, 12** **2.5 Cr.**

Advanced Graphic Design uses the skills previously learned in Graphic Design and challenges the student to create graphic solutions to an array of design problems. In addition to an in-depth look at the history of design and a study of the current professional practices, students will also be devising long-term design projects in the concentration of their choice that will cover every stage of the design process. **PREREQUISITE: Successful Completion of Introduction to Graphic Design or Department Head permission.**

7760 **GRAPHICS I (Dual Enrollment - MCC) - Advanced** **11, 12** **2.5 Cr.**

An introduction to the basic elements and concepts of graphic design. Emphasis is on developing an ability to create cohesive and expressive designs using graphic principles as a basis. Assigned projects will be produced for presentation and in-class discussion. **Prerequisite: Successful completion of English 2A and 2B (junior) or English 3A and 3B (senior), with a minimum grade of 80 in high honors, 85 in honors or 90 in a college level course. Students must also have an overall GPA of 2.5, a score of 480 or better on the PSAT or SAT verbal test, and have a C or better in Introduction to Graphic Design.**

STUDIO ARTS



7513/7514 INTRODUCTION TO ART I & II- Honors 9, 10, 11, 12 2.5/2.5 Cr.

Introduction to Art is a prerequisite art course in which students will explore a variety of art mediums, tools, and techniques. Through this course, students will develop foundational skills in drawing, painting, printmaking, and sculpture. Students in Introduction to Art will explore various concepts and ideas from art history, create artworks in a variety of mediums, engage in critiques using the language of visual art, develop an understanding of the Elements of Art & Principles of Design, and work toward the development of unique artistic voices.

7593/7594 DRAWING & PAINTING I & II - Honors 10, 11, 12 2.5/2.5 Cr.

Designed for students interested in improving their skills in 2D art, this course provides an in-depth study of various drawing & painting processes and techniques in watercolor, acrylic, ink, charcoal, graphite, pastel, and other mediums. Students will be encouraged to push the limits of fine art, develop their own artistic voices, and demonstrate self-discipline to meet project deadlines and goals. Students in Drawing & Painting I & II will explore various concepts and ideas from art history, create artworks in a variety of mediums, engage in critiques using the language of visual art, and build on their understanding of the Elements of Art & Principles of Design. ***Prerequisite: Completion of Introduction to Art I & II or successful portfolio review by Instructor and Department Chair.***

7623/7624 SCULPTURE & CERAMICS I & II - Honors 10, 11, 12 2.5/2.5 Cr.

Sculpture and Ceramics I & II is an intermediate-level course that develops skills in the creation of three-dimensional artworks from clay, plaster, wire, wood, paper, and found objects. Students will create freestanding sculptures, reliefs, mobiles, stabiles, and constructions using both additive and subtractive sculptural processes. With an emphasis on studio production, Sculpture & Ceramics I & II is designed to develop technical skills through the creation of 3D artworks, build higher-level thinking skills through critique and self-assessment, grow an understanding of art history, and encourage the development of unique artistic voices. ***Prerequisite: Completion of Introduction to Art I & II or successful portfolio review by Instructor and Department Chair.***

7771/7772 VISUAL STORYTELLING I & II – Honors 10, 11, 12 2.5/2.5 Cr.

Visual Storytelling is an intermediate-level art course that merges the visual arts with creative writing, allowing for learning that crosses content areas. Students will investigate and create narrative art, illustrations, zines, visual journals/diaries, photo books, graphic novels, and other forms of art making that combines image with text. Students will explore non-traditional forms of art making, including mixed media, found object collage, stream-of-consciousness drawing, and more. Students will build higher-level thinking skills through critique and self-assessment, develop an understanding of the ways images can help tell stories, and develop unique artistic voices through the creation of personal artworks. ***Prerequisite: Completion of Introduction to Art I & II or successful portfolio review by Instructor and Department Chair.***

7543/7544 ADVANCED ART - Honors 11, 12 2.5 Cr.

Advanced Art is an advanced-level course for junior and senior students who are applying to art school, interested in an art-related career, or whose desire for intensive study in the visual arts will provide the self-motivation necessary to be successful in this year-long course. Students in Advanced Art will develop a body of work that demonstrates a broad understanding of various art mediums while cultivating a depth of artistic vision and creativity. This is an intensive course and students must show a commitment to the production of artworks at a rigorous pace. Students will build from an assignment-based curriculum to set independent goals for each of their final artworks. Students will develop college-ready portfolios that accurately reflect their technical and aesthetic expertise and unique artistic voices. ***PREREQUISITE: Successful completion of Introduction to Art I & II and at least two intermediate-level art classes or successful portfolio review by Instructor and Department Chair.***

U. S. AIR FORCE JUNIOR ROTC AEROSPACE SCIENCE

The Air Force Junior ROTC Pathway is a four-year citizenship program designed to develop citizens of character dedicated to serving their nation and community. The objectives of AFJROTC are to educate and train high school cadets in citizenship, promote community service, instill responsibility, character, and self-discipline, and provide instruction in air and space fundamentals. The program is grounded in the Air Force core values of integrity first, service before self, and excellence in all we do. The curriculum emphasizes the Air Force heritage and traditions, the development of flight, applied flight sciences, military aerospace policies, and global awareness. Rigid academic courses in military science and leadership provide a solid foundation. The curriculum shows students how to reach their full potential while serving society through self-discipline, structure, followership, and leadership. Students are challenged by assuming various leadership positions throughout the Lowell High School Cadet Corps. Senior Cadets are responsible for organizing, planning, and coordinating all cadet operations and activities.

In addition to classroom curriculum, learning includes numerous extra-curricular activities including before/after school programs, field trips, and community service activities. These activities emphasize teamwork, discipline, and community engagement.

The AFJROTC program is offered to all Lowell High School students who meet the following requirements:

- Enrolled as a regular student in Lowell High School
- Physically fit. (Eligible to participate in Physical Education)
- Students must agree to meet AFJROTC grooming standards and to wear the uniform at least one day per week and on special occasions as required. (Uniforms are provided at no cost to the student; however, students are responsible for uniform cleaning as necessary.).

Note: There is no military commitment required to be involved in the program.

AFJROTC may be substituted each year for the Physical Education and Health graduation requirement. Students who successfully complete two years in the program receive a *Certificate of Training*, while those completing three or more years receive a *Certification of Completion*.

9321/9322	AFJROTC 1 - Aviation History - Honors	9, 10, 11, 12	2.5/2.5
9323/9324	AFJROTC 2 - Science of Flight - Honors	10, 11, 12	2.5/2.5
9325/9326	AFJROTC 3 - Life Skills/Careers - Honors	11, 12	2.5/2.5
9327/9328	AFJROTC 4 - Management/Cadet Corps - Honors	12	2.5/2.5
9337/9338	AFJROTC 4 - Principles of Management - Honors	12	2.5/2.5
9351/9352	AFJROTC - Flight Commander - Honors	11, 12	2.5/2.5
9381	AFJROTC - Cadet Leadership Course - Non-Weighted	10, 11, 12	2.5

AEROSPACE SCIENCE (AFJROTC)

9321/9322 AFJROTC 1 - AVIATION HISTORY - Honors 9, 10, 11, 12 2.5/2.5 Cr.

Aviation History introduces students to the AFJROTC program and focuses on Air Force heritage, organization, and traditions. Additionally, students learn customs and courtesies of the Air Force. Individual control through personal behavior and responsibility are taught. Students learn about citizenship and the US flag. Studies relate directly to the academic subject matter, with focus on study habits and time management. The Aerospace Science portion reviews the development of flight from ancient legends through the Persian Gulf War and beyond. Additionally, the role of the military throughout the history of the U.S. is identified. The second half of the course describes the makeup of the aerospace community and the United States Air Force. Wellness, health and fitness, as well as instruction in military drill and ceremonies round out the course content. *(Meets Physical Education and Health Requirements.)*

9323/9324 AFJROTC 2 - SCIENCE OF FLIGHT - Honors 10, 11, 12 2.5/2.5 Cr.

Science of Flight Focuses on communication skills, writing, and public speaking. Cadets are further challenged in their leadership development through courseware in team building and follow leadership material. Cadet corps activities will encompass developmental skills for future positions of leadership. Responsibilities will include the planning, training and execution of cadet corps projects by becoming potential flight commanders. As part of the curriculum, education in financial management and budgeting is offered by the Hanscom Federal Credit Union. Aerospace Science curriculum focuses on the aerospace environment, principles of aircraft flight, navigation and human elements of flight. Cadets are eligible to participate on orientation flights when available through United States Air Force or Reserve units. Wellness, health and fitness, as well as further development in drill and ceremonies round out the course content. *(Meets Physical Education and Health Requirements.)* **PREREQUISITE: Successful completion of AFJROTC 1 - Aviation History.**

9325/9326 AFJROTC 3 - LIFE SKILLS/CAREERS - Honors 11, 12 2.5/2.5 Cr.

Life Skills and Careers is designed to prepare students for life after high school in the high-tech, globally oriented, and diverse workplace including charting a course for post-secondary education or entry into the workforce; job application, resume preparation and interviewing skills; military career opportunities an careers in public service; and career skill development. Aerospace Science curriculum, An Introduction to Global Awareness, introduces students to the study of world affairs, regional studies, and cultural awareness. It delves into history, geography, religions, languages, culture, political systems, economics, social issues, environmental concerns, and human rights. Visits are made to colleges, industry and military bases when available. Wellness, health and fitness round out the course content. *(Meets Physical Education and Health Requirements.)* **PREREQUISITE: Successful completion of AFJROTC 2 - Science of Flight**

9337/9338 AFJROTC 4 - PRINCIPLES OF MANAGEMENT - Honors 12 2.5 Cr.

Principles of Management is for Seniors who are not selected for the Management of the Cadet Corps but continue with AFJROTC for a 4th year. Leadership Education continues with an introduction to management principles, the historical roots of contemporary management practices, and the management environment. The course then continues with a discussion of planning to include the foundations of planning and decision making, as well as managing change, stress, and innovation. The course includes ethical dilemmas faced, case studies, and role play activities to give students the opportunity to practice what they learn. The Aerospace Science curriculum continues global awareness studies through the remainder of regions not previously covered in AS-III. Wellness, health and fitness round out the course content. *(Meets Physical Education and Health Requirements.)* **PREREQUISITE: Successful completion of AFJROTC 3 - Life Skills/Careers**

9327/9328 AFJROTC 4 - MANAGEMENT/CADET CORPS - Honors 12 2.5/2.5 Cr.

Management & the Cadet Corps continues with an introduction to management principles, the historical roots of contemporary management practice, and the management environment. The course then continues with a discussion of planning to include the foundations of planning and decision making, as well as managing change, stress, and innovation. The course includes ethical dilemmas faced, case studies, and role play activities to give students the opportunity to practice what they learn. Cadets then put these principles into practice by managing the entire corps during the fourth year. This hands-on experience affords the cadets the opportunity to put the theories of previous leadership courses into practice. All the planning, organizing, coordinating, directing, controlling, and decision-making will be done by the cadets. They practice their communication, decision-making, personal interaction, managerial, and organizational skills. Wellness, health and fitness round out the course content. *(Meets Physical Education and Health Requirements.)* **PREREQUISITE: Successful completion of AFJROTC 3 - Life Skills/Careers; Selection to, and completion of the Cadet Leadership Course.**

9351/9352 AFJROTC - FLIGHT COMMANDER - Honors 11, 12 2.5/2.5 Cr.

Cadets will supervise other cadets in the classroom, write evaluations on their performance, conduct leadership, and promotion potential. They also call roll and report attendance, provide drill and ceremonies training, inspect the flight during inspection days and for special events. They reinforce cadet conduct and discipline during class and drill formation. They also recommend improvements to flight conduct and operations to the instructor. Wellness, health and fitness round out the course content. *(Meets Physical Education and Health Requirements .)* **PREREQUISITE: Successful completion of Aerospace Science II; selection to, and completion of the Cadet Leadership Course.**

9381 AFJROTC - CADET LEADERSHIP - Non-Weighted 11, 12 2.5 Cr.

Students are hand selected to attend the Cadet Leadership Course by the cadre of instructors assigned to AFJROTC. This intense 72 hour curriculum is high impact. It focuses on teaching leadership and management principles to the top 10% of the selected ASIII and ASIV cadets. Students learn key fundamental skills necessary for organizing, coordinating, controlling, and planning all operations and activities within the corps of cadets. These management skills are taught in a classroom setting, a lab environment and reinforced in time related activities. Each student will analyze their leadership skills through a number of training exercises. Upon completion of the Cadet Leadership Course, cadets will be eligible to fill key leadership and management positions throughout the cadet corps. They will also be required to be proficient in drill, ceremonies health and wellness. Cadets must achieve an average score of 85% on each assessment activity to receive a Certificate of Graduation and the Leadership School Ribbon. **PREREQUISITE: Department Head Approval**

PHYSICAL EDUCATION

Each student must select Physical Education each year and pass ten (10) credits in Physical Education. This requirement may be waived only by the Head of School for documented medical excuse, for critical course conflicts or for other extraordinary circumstances.

The Physical Education Program is aligned with the National Standards for Physical Education and the Massachusetts Curriculum Frameworks. Physical activity is critical to the development and maintenance of good health. The goal of physical education is to develop physically educated individuals who have the knowledge, skills, and confidence to enjoy a lifetime of healthful physical activity. A physically educated person will be able to complete the following national standards: Standard 1: Demonstrates competency in motor skills and movement patterns needed to perform a variety of physical activities; Standard 2: Demonstrates understanding of movement concepts, principles, strategies, and tactics as they apply to the learning and performance of physical activities; Standard 3: Participates regularly in physical activity; Standard 4: Achieves and maintains a health-enhancing level of physical fitness; Standard 5: Exhibits responsible personal and social behavior that respects self and others in physical activity settings; Standard 6: Values physical activity for health, enjoyment, challenge, self-expression, and/or social interaction.

9101	Physical Education 1 - Non-Weighted	9	2.5
9102	Physical Education 2 - Non-Weighted	9R, 10	2.5
9103	Physical Education 3 & 4 - Non-Weighted	11, 12	2.5
9110	Unified Physical Education - Non-Weighted	11, 12	2.5

PHYSICAL EDUCATION

9101 PHYSICAL EDUCATION 1 - Non-Weighted 9 (FA) 2.5 Cr.

Grade 9 Physical Education is a coeducational program aligned with the National Standards for Physical Education and Massachusetts Curriculum Frameworks. Students are presented with multiple opportunities to learn skills necessary to participate fully in fitness and sport activities for a lifetime. Units include an introduction and skill based orientation into Aquatics, Basketball, Cardio-Vascular Fitness, Co-operative Games, Strength Training, Racquet Sports, Volleyball and Elective Activities. This course satisfies a Physical Education graduation requirement.

9102 PHYSICAL EDUCATION 2 - Non-Weighted 9R, 10 2.5 Cr.

Grade 10 Physical Education is a coeducational program aligned with the National Standards for Physical Education and Massachusetts Curriculum Frameworks. Students are presented with multiple opportunities to learn skills necessary to participate fully in fitness and sport activities for a lifetime. Units include an introduction and skill based orientation into Aquatics, Basketball, Cardio-Vascular Fitness, Co-operative Games, Strength Training, Racquet Sports, Volleyball and Elective Activities. This course satisfies a Physical Education graduation requirement.

9103 PHYSICAL EDUCATION 3 & 4 - Non-Weighted 11, 12 2.5 Cr.

Grade 11 & 12 Physical Education is a coeducational program aligned with the National Standards for Physical Education and Massachusetts Curriculum Frameworks. Students are presented with multiple opportunities to learn skills necessary to participate fully in fitness and sport activities for a lifetime. Units include an introduction and skill based orientation into Aquatics, Basketball, Cardio-Vascular Fitness, Co-operative Games, Strength Training, Racquet Sports, Volleyball and Elective Activities. This course satisfies a Physical Education graduation requirement.

9110 UNIFIED PHYSICAL EDUCATION - Non-Weighted 11, 12 2.5 Cr.

Unified Physical Education combines students of all abilities to fully participate in developmentally appropriate activities including lifetime activities, physical fitness and sport. UPE is designed for students who are interested in working with students who have cognitive or physical disabilities in an active setting. Students will work together to increase competence and confidence in a variety of developmental activities. Student partners will serve as teaching assistants and modeling peers for the students who have special needs. Students will work one-on-one and/or on small teams to support their special needs peers with developing and enhancing positive communication, social skills, fitness, game strategies, teamwork, & movement skills in a cooperative inclusive enriching environment to facilitate lifelong learning and relationships. The goal for interested students should be to provide a positive social & learning experience. ***Prerequisite: Letter of recommendation and Department Head approval.***

HEALTH

HEALTH COURSES

9011	Health Education A - Non-Weighted	9	2.5
9012	Health Education B - Non-Weighted	10	2.5

HEALTH COURSES

9011	HEALTH A - Health in Mind and Body – Non-Weighted	9	2.5 Cr.
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The emphasis for this course is placed on building self-esteem and resilience, making responsible decisions, and developing coping skills in addition to critically thinking through objective content. The class is interactive; students will work cooperatively on small group projects and learn how to role-play refusal techniques involving peer pressure situations. The course also involves the opportunity to process and discuss health topics with the aid of videos, speakers, and current literature. Health in Mind and Body is composed of the following units: Physical Health, Social Health, and Emotional Health. The focus within these units will include the human body and its systems, nutrition, interpersonal relationships (communication skills), stress management, violence prevention (bullying), introduction to addictive substances and behaviors, human sexuality (including male and female reproductive anatomy, choosing abstinence, setting limits in relationships, teen pregnancy, contraception, sexually transmitted diseases and sexual orientation). This course is aligned with the Massachusetts Comprehensive Health Curriculum framework, and satisfies a Health Education requirement.

9012	HEALTH B - Healthy Life Choices - Non-Weighted	10	2.5 Cr.
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This course focuses on issues/challenges that young adults face today. Students will analyze their personal health choices and risk factors based on their decision-making skills. The course also involves the opportunity to process and discuss health topics with the aid of videos, speakers, and current literature. Healthy Life Choices is composed of the following units: Physical Health, Emotional Health, and Environmental Health. The focus within these units will include healthcare and alternative medicines (prevention and intervention), infectious diseases and lifestyle diseases, human sexuality (dating and healthy relationships, commitment and marriage, conception through parenting, family life, pregnancy and STI prevention), mental health and emotional disorders (anxiety disorders, personality development, expressing emotions and mental health services), environmental health (pollution and its effect on health, practicing recycling and conservation). This course is aligned with the Massachusetts Comprehensive Health Curriculum framework, and satisfies a Health Education requirement. It is strongly recommended that students enrolled in this course have successfully completed Health A- Health in Mind and Body.

ENGLISH LEARNERS (EL) PROGRAM

ENGLISH LANGUAGE DEVELOPMENT - ELD ENGLISH AS A SECOND LANGUAGE - ESL SHELTERED ENGLISH INSTRUCTION - SEI BILINGUAL EDUCATION - BE

An **English Learner (EL)** is a limited English proficient (LEP) student whose native language is a language other than English, and who is not currently able to perform ordinary classroom work in English. Lowell High School offers English Learners (ELs) in grades nine through twelve a comprehensive academic program to build English language proficiency and academic content knowledge. English Language Learners develop English proficiency while learning the general curriculum. Instruction also recognizes that language modalities (speaking, listening, reading, and writing) develop interdependently and, therefore, should be integrated to promote skill development.

English Language Learners at Lowell High School participate in one or more program models that support English language and content knowledge development. Students' English language proficiency is assessed and academic background reviewed in order to recommend an appropriate program placement in English Language Development (ELD) classes, Sheltered English Instruction (SEI) content classes, and/or English Language Development support classes.

English Language Development courses and electives are organized around four language domains identified in this document: listening, speaking, reading, and writing. **The Massachusetts English Language Arts Curriculum Frameworks** learning standards, in addition to the other subject matter curriculum frameworks, the Common Core and WIDA Can Do Descriptors, serve as building blocks and guides for curriculum in the EL Department. Academic content curriculum offered to ELs in Sheltered English Instruction (SEI) content classes aligns with the **Massachusetts Curriculum Frameworks** for mathematics, science and technology, history and social studies, and health. The EL Program offers courses that satisfy graduation requirements and credits. Elective courses support the development of English language proficiency.

The English Learners' Program at Lowell High School strives to offer ELs opportunities to excel in academic, cultural, and social development in order to become successful, productive members of their school and community. It recognizes the linguistic, academic, and cultural diversity of its students and strives to support all ELs at Lowell High so they attain their personal goals during and after high school.

In addition to intensive English Language Development courses and Sheltered English content courses, the program offers ELs in the general education program a variety of support classes to ensure continued development of their academic English proficiency and second language literacy. ELs recently enrolled in a general education English language arts course are required to register for at least ONE (1) ELD support course. Exemptions to this requirement are only with the approval of the EL Department Chair.

The Emergent Literacy Center for newcomer and SIFE/SLIFE students began with the 2013-2014 school year. Admission to this program and its support classes is determined by assessment, and consultation with the department chair and director of the program.

EMERGENT LITERACY CENTER

0967/0968	Academic Language of English - College	Dept. Head Approval	2.5/2.5
0873/0874	ESL Reading - College	Dept. Head Approval	2.5/2.5
0867/0868	Pronunciation and Vocabulary - College	Dept. Head Approval	2.5/2.5

0967/0968 ACADEMIC LANGUAGE OF ENGLISH - College 9, 10, 11, 12 2.5/2.5 Cr.

Academic language of English Language Arts develops language proficiencies that are necessary for learners to perform successfully in academic contexts, specifically in English Language Arts. Instruction concentrates on the acquisition of academic vocabulary and developing oral academic discourse proficiency. Students learn to use specialized vocabulary, grammar, language functions, related discourse structures, and text types. ***PREREQUISITE: Department Head Approval***

0873/0874 ESL READING - College 9, 10, 11, 12 2.5/2.5 Cr.

ESL Reading is for emerging or developing decoders, and instruction focuses on developing specific reading skills and strategies, depending on student needs. ***PREREQUISITE: Department Head Approval***

0867/0868 PRONUNCIATION AND VOCABULARY - College 9,10,11,12 2.5/2.5 Cr.

Beginning EL students will develop vocabulary and language necessary to engage in their core content courses, such as World History, Mathematics, and Science. ***PREREQUISITE: Department Head Approval***

ENGLISH LEARNERS

ENGLISH

0801/0802	Entering English Language - College	9,10, 11, 12	5/5
0805/0806	Emerging English Language - College	9,10, 11, 12	5/5
0811/0812	Developing English Language - College	9, 10, 11, 12	5/5
0821/0822	Expanding -English Language - College	9, 10, 11, 12	5/5
0831/0832	Bridging English Language - College	9, 10, 11, 12	5/5
0861/0862	Beginning English Conversation - College	9, 10, 11, 12	2.5/2.5
0865/0866	Developing Phonemic Awareness	9, 10, 11, 12	2.5/2.5
0881/0882	Fundamentals of Reading - College	Dept. Head Approval	2.5/2.5
0900	Second Language Communication Skills - College	9, 10, 11, 12	2.5
0901	Reading Clinic Intermediate - College	9, 10, 11, 12	2.5
0902	Reading Clinic Advanced - College	9, 10, 11, 12	2.5
0910	Accelerated Reading - College	9, 10, 11, 12	2.5
0921	Writing Lab Intermediate - College	9, 10, 11, 12	2.5
0922	Writing Lab Advanced - College	9, 10, 11, 12	2.5
0931/0932	Tutorial/Study Skills - College	9, 10, 11, 12	2.5/2.5

MATH

1027/1028	Introduction to Mathematics - College	Dept. Head Approval	2.5/2.5
1137/1138	Algebra 1 - College	9, 10	2.5/2.5
1237/1238	Geometry - College	10, 11, 12	2.5/2.5

SCIENCE

3137/3138	Integrated Science - College	9, 10	2.5/2.5
3237/3238	Biology - College	10, 11, 12	2.5/2.5
3347/3348	Biochemistry - College	10, 11, 12	2.5/2.5

SOCIAL STUDIES

4027/4028	Introduction to Social Studies - College	Dept. Head Approval	2.5/2.5
4137/4138	World History - College	9	2.5/2.5
4191/4192	American Manners and Customs	9, 10, 11, 12	2.5/2.5
4237/4238	U. S. History 1 - College	10, 11, 12	2.5/2.5
4337/4338	U. S. History 2 - College	11, 12	2.5/2.5

ENGLISH LEARNERS

The prerequisites for the following course descriptions are NOT the sole criteria for placement in ELL courses. Department Chair and/or teacher recommendations, departmental assessments, standardized test scores, and students' previous academic records are also considered.

ENGLISH LANGUAGE DEVELOPMENT (ELD) ENGLISH AS A SECOND LANGUAGE (ESL) COURSES

0801/0802 ENTERING ENGLISH LANGUAGE - College 9, 10, 11, 12 5/5 Cr.

Entering English Language is for students with little or no English proficiency. EL students at this level follow a curriculum that includes listening, speaking, reading, and writing as outlined in the WIDA CAN DO Descriptors and/or the WIDA Model Test. Basic interpersonal communicative skills in English are emphasized, while simultaneously introducing cognitive academic language proficiency skills. This course satisfies an English graduation requirement. ***PREREQUISITE: A pretest indicating no or very limited English proficiency***

0805/0806 EMERGING ENGLISH LANGUAGE - College 9, 10, 11, 12 5/5 Cr.

Emerging English Language is for students with some English proficiency. EL students at this level follow a curriculum that includes listening, speaking, reading, and writing as outlined in the WIDA CAN DO Descriptors and/or the WIDA Model Test. Basic interpersonal communicative skills in English are emphasized, while simultaneously introducing cognitive academic language proficiency skills. This course satisfies an English graduation requirement. ***PREREQUISITE: A pretest indicating no or very limited English proficiency.***

0811/0812 DEVELOPING ENGLISH LANGUAGE - College 9, 10, 11, 12 5/5 Cr.

Developing English Language is for students with limited English proficiency. EL students at this level follow a curriculum that includes listening, speaking, reading, and writing as outlined in the WIDA CAN DO Descriptors and/or the WIDA Model Test. This course satisfies an English graduation requirement.

Further development of English proficiency for both interpersonal communication and academic use is emphasized through the use of projects, computer-based instruction and content-based material. This course satisfies an English graduation requirement. ***PREREQUISITE: A pretest indicating limited English proficiency, successful completion of courses. Emerging English Language and/or other considerations approved by the Department Head.***

0821/0822 EXPANDING ENGLISH LANGUAGE - College 9, 10, 11, 12 5/5 Cr.

Expanding English Language is for students with advanced English proficiency. EL students at this level follow a curriculum that includes listening, speaking, reading, and writing as outlined in the WIDA CAN DO Descriptors and/or the WIDA Model. Knowledge and control of basic grammatical structures in both speaking and writing are emphasized, while more complex grammatical structures are introduced. Students are expected to handle increasingly complex reading materials and academic tasks, through the continued use of projects, computer-based instruction, and content-based material. This course satisfies an English graduation requirement. ***PREREQUISITE: A pretest indicating limited English proficiency, successful completion of courses Developing English Language and/or other considerations approved by the Department Head.***

0831/0832 BRIDGING ENGLISH LANGUAGE - College 9, 10, 11, 12 5/5 Cr.

Bridging English Language is for students transitioning to everyday use of the English Language. EL students at this level follow a curriculum that includes the standards as outlined in the Massachusetts English Language Arts Curriculum and the WIDA CAN DO Descriptors and/or the WIDA Model Test. Reviews of grammatical skills, techniques of composition and vocabulary development are supplemented by instruction in the skills of expository and creative writing. A survey of the forms of literature presented in mainstream college level courses is an integral part of the course. This includes mythology, the novel, short story, drama, poetry and non-fiction essays, biography, and autobiography. This course satisfies an English graduation requirement. ***PREREQUISITE: A pretest indicating limited English proficiency, successful completion of courses Expanding English Language and/or other considerations approved by the Department Head.***

**0861/0862 BEGINNING ENGLISH CONVERSATION (ELD) - College
9, 10, 11, 12 2.5/2.5 Cr.**

Beginning EL students will practice the necessary skills for conversations in their new language. They will learn to speak in a variety of situations, such as formal and informal speech, as well as language to solve such conversational problems as asking for information, clarification, and directions. Students will practice listening comprehension using music, video, computer programs, and teacher-directed activities. Oral language exercises concentrating on stress, rhythm, syllabication, phrasing, and intonation will be embedded throughout the course. Contextual course topics will be based on students' interests. Role-playing and out of class practice will be required. ***PREREQUISITE: Entering-English Language or Emerging English Language levels only.***

0865/0866 Developing Phonemic Awareness - College 9,10,11,12 5/5 Cr.

Throughout the course, students will develop phonemic awareness. That is, they will improve their ability to focus on and manipulate individual sounds of the English language, with an emphasis on those sounds that do not appear in their native languages. In addition, they will practice to master over a dozen lists of sight words.

0881/0882 FUNDAMENTALS OF READING (ELD) - College 9, 10, 11, 12 2.5/2.5 Cr.

Fundamentals of Reading is for EL students who need to develop and/or improve decoding and comprehension skills should enroll in this course. This course is particularly useful for LEP students with limited native language literacy. ***PREREQUISITE: Department Head Approval.***

0900 **SECOND LANGUAGE COMMUNICATION SKILLS - College** **9, 10, 11, 12** **2.5 Cr.**

Second Language Communication Skills is for beginning and intermediate LEP students as an elective ELD course. Students reinforce English language skills using a multi-sensory approach to language learning. Students will reinforce aural, oral, reading and writing skills. **PREREQUISITE: Department Head Approval.**

0901 **READING CLINIC INTERMEDIATE (ELD) - College** **9, 10, 11, 12** **2.5 Cr.**

Reading Clinic Intermediate is a basic reading course for identified LEP students who need specialized reading instruction. An eclectic approach to word attack skills will enable students to learn to read for information as well as pleasure. A practical approach to reading skills, such as determining meaning from context, skimming, and scanning, will be combined with activities designed to enhance pleasure in reading as a lifelong activity. Reading journals and book conferences will be included. **PREREQUISITE: Developing English Language Development or Expanding English Language levels and/or recommended by ELD teacher and/or the Department Head.**

0902 **READING CLINIC ADVANCED (ELD) - College** **9, 10, 11, 12** **2.5 Cr.**

Reading Clinic Advanced is for identified LEP students who need specialized reading instruction. An eclectic approach to word attack skills will enable students to learn to read for information as well as pleasure. A practical approach to reading skills, such as determining meaning from context, skimming, and scanning, will be combined with activities designed to enhance pleasure in reading as a lifelong activity. Reading journals and book conferences will be included. **PREREQUISITE: Expanding English Language or Bridging English Language ELD levels and/or recommended by ELD teacher and/or the Department Head.**

0910 **ACCELERATED READING (ELD) - College** **9, 10, 11, 12** **2.5 Cr.**

Accelerated Reading will provide essential reading skills to succeed in mainstream college level classes in this intensive one-semester course for the motivated student with college ambition. An initial reading level will be determined for each student, and each student will be placed in an individualized program designed to help him/her set goals to improve reading enjoyment and comprehension. Students will chart their own progress towards individual improvement goals. Whole class instruction will include appropriate use of material from the student's current classes, as well as textbooks and support material, including the use of computers. **PREREQUISITE: Department Head Approval**

0921 **WRITING LAB INTERMEDIATE (ELD) - College** **9, 10, 11, 12** **2.5 Cr.**

Writing Lab Intermediate provides extra writing practice for high beginning to intermediate LEP students. The course will focus on writing paragraphs for various purposes: description, narration, summary, comparison, contrast, and argument. Students will use personal experiences, picture stories, and readings from various content areas as a basis for writing. Stress will be placed on sentence structure and paragraph development. The use of computers for writing will be emphasized. **PREREQUISITE: An elective course for Developing English Language or Expanding English Language students or Department Head approval.**

0922 **WRITING LAB ADVANCED - College** **9, 10, 11, 12** **2.5 Cr.**

Writing Lab Advanced provides extra writing practice for high intermediate, advanced, and transitional level ELD students. The course will focus on writing for various purposes: description, narration, summary, comparison and contrast, definition, argument. Students will develop multi-paragraph compositions, using personal experience and readings from various content areas as a basis for writing. **PREREQUISITE: An elective course for Expanding English Language Bridging English Language, Support English Language Development, Intensive English Language Development and partially mainstreamed ELL students or Department Head approval.**

0931/0932 **TUTORIAL/STUDY SKILLS - College** **9, 10, 11, 12** **2.5/2.5 Cr.**

Tutorial/Study Skills is for ELL students who require extra academic support to succeed in their classes. Study and organizational skills are taught using the content of the student's regular academic classes and learning style. Students are required to bring daily work and long-term assignments to class at every scheduled session. Class size is limited to no more than 15 students per section. **PREREQUISITE: Enrolled in ELL courses and/or recommendation of Department Head.**

MATHEMATICS COURSES (EL)

1027/1028 INTRODUCTION TO MATHEMATICS - College 9, 10, 11 2.5/2.5 Cr.

Introduction to Mathematics is an introduction to algebra integrated with a review of immediately pertinent prerequisite skills. The course includes the material of the Massachusetts Mathematics Framework in preparation for the MCAS. It includes constants and variables, functions, open phrases and sentences, postulates, and properties of real numbers and linear equations. **PREREQUISITE: Department –Head Approval**

1137/1138 ALGEBRA 1 - College 10, 11, 12 2.5/2.5 Cr.

Algebra 1 introduces standard topics of algebra including constants and variables, functions, open phrases and sentences, postulates and properties of real numbers, linear equations, signed numbers, operations with polynomials, word problems leading to linear equations, and factoring.

1237/1238 GEOMETRY - College 10, 11, 12 2.5/2.5 Cr.

Geometry is developed with a view to proof and logic as well as to its applications to the physical world. Properties of lines, angles and triangles are examined and in some cases deduced from other properties. Transformations are studied; properties and measurements of polygons and circles are included. Geometer's Sketchpad is utilized throughout the course. **PREREQUISITE: Completion of one year of high school math. NOTE: Sophomores must take Geometry to prepare for the MCAS if they have the requisite skills to do so.**

SCIENCE COURSES (EL)

3137/3138 INTEGRATED SCIENCE - College 9, 10 2.5/2.5 Cr.

Integrated Science will introduce students to the processes of life in order to allow students to make scientifically informed decisions related to their health and the health of the planet. The course will also cover the cell and cell functions including photosynthesis and cellular respiration. It is designed to provide both content knowledge and skills needed to succeed in higher level Biology courses, and to prepare for the MCAS Biology exam. **PREREQUISITE: Department Head Approval**

3237/3238 BIOLOGY - College 10, 11, 12 2.5/2.5 Cr.

Biology provides students a basic understanding of the scientific processes that make up the unified principles of life. Topics include cellular physiology and function, DNA and protein synthesis, cell reproduction, genetics, anatomy and physiology, evolution and ecology. Emphasis is placed on the diversity and unity of the living world, genetic continuity, and changes in organisms over time. **PREREQUISITE: Department Head Approval**

3347/3348 BIOCHEMISTRY - College 11, 12 2.5/2.5 Cr.

Biochemistry focuses on the interplay between chemistry and the biological molecules that make life possible, and how these molecules interact. **PREREQUISITE: Department Head Approval**

SOCIAL STUDIES (EL)

4027/4028 INTRODUCTION TO SOCIAL STUDIES - College 9, 10, 11 2.5/2.5 Cr.

Introduction to Social Studies is for Basic English Language Learners. Its purpose is to help ELs develop the vocabulary, academic language, and basic concepts necessary to successfully participate in Sheltered English social studies classes. ***PREREQUISITE: Department Head Approval***

4137/4138 WORLD HISTORY - College 9 2.5/2.5 Cr.

World History begins with a review of the fall of Rome and ends with the Late Middle Ages. It is designed in accordance with the Massachusetts Curriculum Frameworks and integrates history, geography, economics, and government. Students will engage in a variety of learning activities and assessments as they increase their knowledge of the global community.

4191/4192 American Manners and Customs 9, 10, 11, 12 2.5/2.5 Cr.

American Manners and Customs is a supplementary reading and writing course for non-natives speakers of English who are curious about American culture. The class will discuss topics, such as expressing emotions, dealing with different kinds of people, meeting and breaking cultural expectations, and other interesting aspects of American life. With weekly reading assignments and brief written reflections, students will enjoy discussing and sharing their understandings of why many Americans behave the way they do.

4237/4238 U. S. HISTORY 1 - College 10, 11, 12 2.5/2.5 Cr.

U. S. History 1 emphasizes the major events in the history of the United States from the American Revolution to the Civil War and Reconstruction. It is designed, in accordance with the Massachusetts Curriculum Frameworks, to provide students with a fundamental knowledge of the origins of the American ideologies of freedom and the pursuit of happiness. U. S. History IA includes a detailed study of the Constitution. The course integrates history, geography, economics, and government.

4337/4338 U. S. HISTORY 2 - College 11, 12 2.5/2.5 Cr.

US History 2 covers the history of the United States from the Industrial Revolution through the 1920's. Students study the effects of the free enterprise system and look at the Constitutional issues involved in government regulation of big business. They also examine American foreign policy as the U.S. becomes involved in international events. The course, designed in accordance with the Massachusetts Curriculum Frameworks, integrates history, geography, economics, and government.

NATIVE LANGUAGE ARTS

Native Language Arts courses are offered in Spanish through the Foreign Language Department as Heritage Speaker courses.

2503/2504 SPANISH 1 - HERITAGE SPEAKER - Honors 9, 10, 11, 12 2.5/2.5 Cr.

Spanish 1 - Heritage Speaker is for students who have native listening/speaking skills in Spanish, and who seek to meet college entrance requirements. This course emphasizes correct pronunciation, formal grammar (verb tenses, pronouns, etc.), listening comprehension, reading and writing in the foreign language, and a study of the customs and traditions of the Spanish-speaking people. It will initially move at a quicker pace than Spanish 1 - Honors, and will have a different emphasis, - more on reading and writing structure, with a rapid review of basic vocabulary. **PREREQUISITE: Placement through exam or consultation with the Department Head.**

2507/2508 SPANISH 2 - HERITAGE SPEAKER - Honors 10, 11, 12 2.5/2.5 Cr.

Spanish 2 - Heritage Speaker is for students who have native listening/speaking skills in Spanish, and who seek to meet college entrance requirements. This course emphasizes correct pronunciation, formal grammar (verb tenses, pronouns, etc.), listening comprehension, reading and writing in the foreign language, and a study of the customs and traditions of the Spanish-speaking people. It will continue the work done in Spanish 1 - Heritage Speaker, and will have an increased emphasis on reading and writing structure, with additional vocabulary and cultural investigation. **PREREQUISITE: Successful completion of Spanish 1 - Heritage Speaker.**

2651/2652 PORTUGUESE 1 - HERITAGE SPEAKER - Honors 9, 10, 11, 12 2.5/2.5 Cr.

Portuguese 1 - Heritage Speaker is for students who have native listening/speaking skills in Portuguese, and who seek to meet college entrance requirements. This course emphasizes correct pronunciation, formal grammar (verb tenses, pronouns, etc.), listening comprehension, reading and writing in the foreign language, and a study of the customs and traditions of the Portuguese-speaking people. It will initially move at a quicker pace than Portuguese 1 - Honors, and will have a different emphasis, - more on reading and writing structure, with a rapid review of basic vocabulary. **PREREQUISITE: Placement through exam or consultation with the Department Head**

SPECIAL EDUCATION PROGRAM

Special Education services are determined through the Team process according to federal and state regulations. Eligible students receive the services specified in their Individual Educational Programs that enable them to receive a free and appropriate public education in the least restrictive environment. Each student's program is designed to ensure a successful transition to his/her individual post high school goal and to support the acquisition of skills necessary to become productive members of the larger community.

DEPARTMENT SUPPORT COURSES

8991	Special Education Intern - Non-Weighted	11, 12	2.5/2.5
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FUNDAMENTAL COURSES

Students in Fundamental courses are working towards a high school diploma including the successful completion of the standard MCAS exam.

ENGLISH

8001/8002	English 1 (SP) - College	9	2.5/2.5
8003/8004	English 2 (SP) - College	10	2.5/2.5
8005/8006	English 3 (SP) - College	11	2.5/2.5
8007/8008	English 4 (SP) - College	12	2.5/2.5

LITERACY SUPPORT

8063/8064	Literacy (SP) - Non-Weighted	9, 10, 11, 12	2.5/2.5
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MATH

8100	Math MCAS Prep (SP) - College	10R, 11, 12	2.5
8103/8104	Algebra 1 (FR) (SP) - College	9	2.5/2.5
8109/8110	Algebra 1 (SP) - College	10, 11, 12	2.5/2.5
8105/8106	Geometry (SP) - College	10, 11, 12	2.5/2.5
8151/8152	Financial Math (SP) - College	11, 12	2.5/2.5

SCIENCE

8301/8302	Science (SP) - College	9	2.5/2.5
8303/8304	Biology 1 (SP) - College	10	2.5/2.5
8305/8306	Biology 2 (SP) - College	11	2.5/2.5

SOCIAL STUDIES

8401/8402	Topics in World History (SP) - College	9	2.5/2.5
8403/8404	Topics in US History (SP) - College	10	2.5/2.5
8407/8408	Struggles for Equality (SP) - College	11	2.5/2.5

TRANSITIONAL SUPPORT

8557/8558	Transitional Seminar (SP) - College	10, 11, 12	2.5/2.5
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ADJUSTMENT COURSES

Students in Adjustment courses are working towards a high school diploma including the successful completion of the standard MCAS exam.

ENGLISH

8021/8022	English 1 (AD) - College	9	2.5/2.5
8023/8024	English 2 (AD) - College	10	2.5/2.5
8025/8026	English 3 (AD) - College	11	2.5/2.5
8027/8028	English 4 (AD) - College	12	2.5/2.5
8051	Literature & Contemporary Youth (AD) - College	10, 11, 12	2.5
8052	Iconic Children's Literature (AD) - College	10, 11, 12	2.5
8061/8062	Balanced Literacy (AD) - College	9	2.5/2.5

MATH

8123/8124	Algebra 1 (AD) - College	9	2.5/2.5
8125/8126	Geometry (AD) - College	10	2.5/2.5
8153/8154	Financial Mathematics & Application (AD) - College	11, 12	2.5/2.5
8129/8130	Math 4 (AD) - College	11, 12	2.5/2.5

SCIENCE

8317/8318	Explorations in Life Science (AD) - College	9	2.5/2.5
8313/8314	Biology (AD) - College	10	2.5/2.5
8330	Earth Science (AD) - College	11, 12	2.5
8331	Human Impact (AD) - College	11, 12	2.5

SOCIAL STUDIES

8411/8412	World History (AD) - College	9	2.5/2.5
8413/8414	US History 1 (AD) - College	10	2.5/2.5
8423	American Foreign Policy since 1776 (AD) - College	11	2.5
8419	Know Your World (AD) - College	10, 11, 12	2.5
8420/8421	Civil Liberties (AD) - College	10, 11	2.5/2.5

SUPPORT

8543	Leadership Through Adventure (AD) - College	10, 11, 12	2.5
8547/8548	Social Dynamics 1 (AD) - College	9R, 10	2.5/2.5
8549/8550	Social Dynamics 2 (AD) - College	10R, 11	2.5/2.5
8873/8874	Instructional Support (AD) - Non-Weighted	9R, 10, 11, 12	2.5/2.5
8981/8982	Freshman Seminar (AD) - Non-Weighted	9	2.5/2.5

PHYSICAL EDUCATION

8903/8904	Physical Education (AD) - Non-weighted	9, 10, 11, 12	2.5/2.5
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WELLNESS

8911	Health A (AD) - Non-weighted	9, 10, 11, 12	2.5/2.5
8912	Health B (AD) - Non-weighted	9, 10, 11, 12	2.5/2.5

SUPPORT

8543	Leadership Through Adventure (AD) - College	10, 11, 12	2.5
8547/8548	Social Dynamics 1 (AD) - College	9R, 10	2.5/2.5
8549/8550	Social Dynamics 2 (AD) - College	10R, 11	2.5/2.5
8873/8874	Instructional Support (AD) - Non-Weighted	9R, 10, 11, 12	2.5/2.5
8981/8982	Freshman Seminar (AD) - Non-Weighted	9	2.5/2.5

LEAP COURSES

8065/8066	Functional Literacy (JP) – Non-Weighted	9, 10, 11, 12	2.5/2.5
8095/8096	Functional ELA (LEAP) - Non-Weighted	9, 10	2.5/2.5
8133/8134	Functional Math (JP) - Non-Weighted	9, 10	2.5/2.5
8155/8156	Real World Math 1 (JP) – Non-Weighted	11, 12	2.5/2.5
8161/8162	Real World Math 2 (JP) – Non-Weighted	11, 12	2.5/2.5
8315/8316	Functional Science (JP) - Non-Weighted	9, 10	2.5/2.5
8507/8508	Pre-Vocational Education (JP) – Non-Weighted	9, 10, 11, 12	2.5/2.5
8515/8516	Vocational Education (JP) – Non Weighted	11, 12	2.5/2.5
8440/8441	R.A.I.S.E. (JP) – Non-Weighted	9, 10, 11, 12	2.5/2.5
8551/8552	Social Dynamics (JP) - Non-Weighted	9, 10, 11, 12	2.5/2.5
8561/8562	Activities of Daily Living (JP) – Non-Weighted	9, 10, 11, 12	2.5/2.5
8577/8578	Transportation and Mobility (JP) – Non-Weighted	9, 10, 11, 12	2.5/2.5
8603/8604	Everyday Technology (JP) - Non-Weighted	11, 12	2.5/2.5
8921/8922	Health (JP) - Non-Weighted	9, 10, 11, 12	2.5/2.5
9134/9135	Physical Education (JP) - Non-Weighted	9, 10, 11, 12	2.5/2.5
8914/8915	Recreation and Leisure (JP) – Non-Weighted	11, 12	2.5/2.5
8067/8068	Functional Literacy (IN) – Non-Weighted	9, 10, 11, 12	2.5/2.5
8095/8096	Functional ELA (LEAP) - Non-Weighted	9, 10, 11, 12	2.5/2.5
8135/8136	Functional Math (IN) - Non-Weighted	9, 10, 11, 12	2.5/2.5
8157/8158	Real World Math 1 (IN) – Non-Weighted	11, 12	2.5/2.5
8163/8164	Real World Math 2 (IN) – Non-Weighted	11, 12	2.5/2.5
8323/8324	Functional Science (IN) - Non-Weighted	9, 10, 11, 12	2.5/2.5
8442/8443	R.A.I.S.E. (IN) – Non-Weighted	9, 10, 11, 12	2.5/2.5
8509/8510	Pre-Vocational Education (IN) – Non-Weighted	9, 10, 11, 12	2.5/2.5
8517/8518	Vocational Education (IN) – Non Weighted	11, 12	2.5/2.5
8553/8554	Social Dynamics (IN) - Non-Weighted	9, 10, 11, 12	2.5/2.5
8563/8564	Activities of Daily Living (IN) – Non-Weighted	9, 10, 11, 12	2.5/2.5
8579/8580	Transportation and Mobility (IN) – Non-Weighted	9, 10, 11, 12	2.5/2.5
8605/8606	Everyday Technology (IN) - Non-Weighted	11, 12	2.5/2.5
8923/8924	Health (IN) - Non-Weighted	9, 10, 11, 12	2.5/2.5
9136/9137	Physical Education (IN) - Non-Weighted	9, 10, 11, 12	2.5/2.5
8916/8917	Recreation and Leisure (IN) – Non-Weighted	11, 12	2.5/2.5
8069/8070	Functional Literacy (CSA) – Non-Weighted	9, 10, 11, 12	2.5/2.5
8137/8138	Functional Math (CSA) - Non-Weighted	9, 10, 11, 12	2.5/2.5
8159/8160	Real World Math 1 (CSA) – Non-Weighted	11, 12	2.5/2.5
8165/8166	Real World Math 2 (CSA) – Non-Weighted	11, 12	2.5/2.5
8325/8326	Functional Science (CSA) - Non-Weighted	9, 10, 11, 12	2.5/2.5
8444/8445	R.A.I.S.E. (CSA)	9, 10, 11, 12	2.5/2.5
8511/8512	Pre-Vocational Education (CSA) – Non-Weighted	9, 10, 11, 12	2.5/2.5
8519/8520	Vocational Education (CSA) – Non Weighted	11, 12	2.5/2.5
8555/8556	Social Dynamics (CSA) - Non-Weighted	9, 10, 11, 12	2.5/2.5
8565/8566	Activities of Daily Living (CSA) – Non-Weighted	9, 10, 11, 12	2.5/2.5
8581/8582	Transportation and Mobility (CSA) – Non-Weighted	9, 10, 11, 12	2.5/2.5
8607/8608	Everyday Technology (CSA) - Non-Weighted	11, 12	2.5/2.5
8925/8926	Health (CSA) - Non-Weighted	9, 10, 11, 12	2.5/2.5
9138/9139	Physical Education (CSA) - Non-Weighted	9, 10, 11, 12	2.5/2.5
8918/8919	Recreation and Leisure (CSA) – Non-Weighted	11, 12	2.5/2.5

DEPARTMENT SUPPORT

8991 **SPECIAL EDUCATION INTERN - Non-Weighted** **11, 12** **2.5 Cr.**

Internships offered by the Special Education Department provide valuable opportunities for students wishing to explore a career in the Special Education field. Students have the opportunity to be placed in classrooms with teachers and/or specialists overseeing their experience in working students who have intensive special needs, students with autism, and students who have intellectual impairments. In addition, students wishing to specialize in Speech and Language, Occupational Therapy and/or Physical Therapy have the opportunity to work with these specialists. Students pursuing internships are also expected to be role models for the special needs students. All candidates must present themselves to the Special Education Department Chair and complete an interview process to determine eligibility.

FUNDAMENTAL COURSES

Students in Fundamental courses are working towards a high school diploma including the successful completion of the standard MCAS exam.

ENGLISH

8001/8002	English 1 (SP) - College	9	2.5/2.5
8003/8004	English 2 (SP) - College	10	2.5/2.5
8005/8006	English 3 (SP) - College	11	2.5/2.5
8007/8008	English 4 (SP) - College	12	2.5/2.5
8053/8054	Literature for Contemporary Youth (SP) - College	10, 11, 12	2.5/2.5

LITERACY SUPPORT

8063/8064	Literacy (SP) - Non-Weighted	9, 10, 11, 12	2.5/2.5
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MATH

8100	Math MCAS Prep (SP) - College	10R, 11, 12	2.5
8103/8104	Algebra 1 (FR) (SP) - College	9	2.5/2.5
8109/8110	Algebra 1 (SP) - College	10, 11, 12	2.5/2.5
8105/8106	Geometry (SP) - College	10, 11, 12	2.5/2.5
8151/8152	Financial Math (SP) - College	11, 12	2.5/2.5

SCIENCE

8301/8302	Science (SP) - College	9	2.5/2.5
8303/8304	Biology 1 (SP) - College	10	2.5/2.5
8305/8306	Biology 2 (SP) - College	11	2.5/2.5

SOCIAL STUDIES

8401/8402	Topics In World History (SP) - College	9	2.5/2.5
8403/8404	Topics In US History (SP) - College	10	2.5/2.5
8407/8408	Struggles for Equality (SP) - College	11	2.5/2.5

TRANSITIONAL SUPPORT

8557/8558	Transitional Seminar -College	10, 11, 12	2.5/2.5
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ENGLISH

8001/8002 ENGLISH 1 (SP) - College 9 2.5/2.5 Cr.

English 1 offers students an introduction to the various genres of literature. The genres will include the short story, the novel, and works of non-fiction such as essays, biography and autobiography. These readings will be accompanied by selected outside reading titles. There will be a strong emphasis on pre-reading and reading strategies, as well as writing and the writing process, including essay writing, grammar, paragraph development, sentence variety, and text referencing. Students will develop a knowledge and understanding of vocabulary and specific literary terms in conjunction with the writing and literary components of the course. Student will continue to build vocabulary and specific literary terms in conjunction with the writing and literary components of the course. This course satisfies an English graduation requirement.

8003/8004 ENGLISH 2 (SP) - College 10 2.5/2.5 Cr.

English 2 offers students an exploration of the various genres of literature through a survey of world literature, with a focus on short stories and the novel. Emphasis will be on the development of critical thinking skills and strategies for the purposes of improving reading, speaking, and writing. This course will also place a strong emphasis on MCAS preparation. This course satisfies an English graduation requirement.

8005/8006 ENGLISH 3 (SP) - College 11 2.5/2.5 Cr.

English 3 is an extensive survey of American Literature. Emphasis is placed developing writing, with a focus on sentence style and organization, paragraph development, vocabulary skills and encouraging the student to attain increasing levels of competence in mechanics, content, organization and style in various types of writing situations. This course satisfies an English graduation requirement.

8007/8008 ENGLISH 4 (SP) - College 12 2.5/2.5 Cr.

English 4 introduces students to British Literature, through a survey of works tracing the evolution of English Language and Literature. The course will place an emphasis on improving the skills of critical analysis, both oral and written, with particular attention paid to improving the content, form and style of student writing. This course also offers students the opportunity to create a resume and practice interview skills. This course satisfies an English graduation requirement.

8053/8054 LITERATURE (SP) - College 10, 11, 12 2.5/2.5 Cr.

Literature and Contemporary Youth course is designed for students who need to make up English credits. It offers students an exploration of the various genres of literature through a survey of modern literature, with a focus on short stories and the novel. Emphasis will be on the development of critical thinking skills and strategies for the purposes of improving reading, speaking, and writing. Writing will be examined for adequate development, unity, and coherence with increased attention to style, diction, and sentence variety.

LITERACY SUPPORT

8063/8064 LITERACY (SP) - Non-Weighted 9, 10, 11, 12 2.5/2.5 Cr.

Literacy provides a structured, systematic, multi-sensory approach to teach students how to decode and encode. The skills taught in this course enhance fluency, comprehension, and improve reading skills to enhance independence and success within the general education curriculum. There is a computer component to this course.

MATH

8100 MATH MCAS PREP - College 10, 11, 12 2.5 Cr.

Math MCAS Prep prepares students who have scored below a 240 on the test. The five strands of the MCAS Math test are reviewed with emphasis placed on number sense and operations, patterns, relations and Algebra, Geometry, measurement, data analysis, statistics and probability. Test taking skills and strategies as well as study skills are also covered.

8103/8104 ALGEBRA 1 (FR) (SP) - College 9 2.5/2.5 Cr.

Algebra 1 includes topics of algebra including constants and variables, functions, open phrases and sentences, postulates and properties of real numbers, linear equations, signed numbers, operations, and word problems. Topics to be studied include solution of quadratic equations, expressions, and graphing.

8109/8110 ALGEBRA 1 (SP) - College 10, 11, 12 2.5/2.5 Cr.

Algebra 1 includes topics of algebra including constants and variables, functions, open phrases and sentences, postulates and properties of real numbers, linear equations, signed numbers, operations, and word problems. Topics to be studied include solution of quadratic equations, expressions, and graphing.

8105/8106 GEOMETRY (SP) - College 10, 11, 12 2.5/2.5 Cr.

Geometry **includes** proof and logic as well as its applications to the physical world. Properties of lines, angles and triangles are examined and in some cases deduced from other properties. Transformations are studied; properties and measurements of polygons and circles are included. Properties and measurement of solid figures are studied. Measurement and applications are emphasized. The idea of similarity is introduced and applied.

8151/8152 FINANCIAL MATH (SP) - College 11, 12 2.5/2.5 Cr.

Financial Math is for students that have passed Algebra I and Geometry. **Students** will be able to explore real-life Math applications. The course will begin with a brief review of the order of operations, positive and negative numbers, and the relationship and operations of fractions decimals, and percentages. Following this review of prior knowledge, students will engage in various math topics that can be applied to real life. These topics will greatly assist students as they move in to their post-secondary phase of life. Students will also spend time reviewing the MCAS including multiple-choice questions, open response questions, and various testing strategies. Some questions will be focused on data and graphs, including pie charts, bar graphs, and stats including mean, median, and mode.

SCIENCE

8301/8302 SCIENCE (SP) - College 9 2.5/2.5 Cr.

Science introduces students to the processes of life in order to allow students to make scientifically informed decisions related to their health, and the health of the planet. It is designed to provide both content knowledge and skills needed to succeed in higher level Biology courses and to prepare for the MCAS Biology exam.

SUPPORT COURSES

8851/8852	Instructional Support 1 - Non-Weighted	9	2.5/2.5
8853/8854	Instructional Support 2 - Non-Weighted	9 non-clustered, 10	2.5/2.5
8855/8856	Instructional Support 3 - Non-Weighted	11	2.5/2.5
8857/8858	Instructional Support 4 - Non-Weighted	11	2.5/2.5
8859/8860	Instructional Support (HI) - Non-Weighted	9, 10, 11, 12	2.5/2.5
8851/8852	Instructional Support 1 - Non-Weighted	9	2.5/2.5 Cr.
8853/8854	Instructional Support 2 - Non-Weighted	9 non-clustered, 10	2.5/2.5 Cr.
8859/8860	Instructional Support (HI) - Non-Weighted	9, 10, 11, 12	2.5/2.5 Cr.

Instructional Support provides direct instruction in the individual goals and objectives listed in each student's IEP. Instruction occurs in small group and/or one on one to support completion of general education class assignments. Special Education teachers monitor students' progress in general education classes and provide assistance and re-teaching as needed. Students learn organizational skills and study skills in this class to help them successfully access the general education curriculum. Assessment data is used to determine the need for remedial instruction and support students as they take the MCAS tests required for high school graduation.

8855/8856 INSTRUCTIONAL SUPPORT 3 - Non-Weighted 11 2.5/2.5 Cr.

Instructional Support 3 focuses on preparing students for independent functioning and using self-advocacy strategies to access the curriculum and navigate the school environment. Through direct instruction, scripts/role play and guided assistance, the special education teacher assists the students in time management tasks, approaching teachers and other support personnel and monitoring their progress in class. Discussions about career goals and plans for life after high school begin to take shape as students explore resources for part time employment opportunities, career options, and skills needed for independence such as obtaining a driver's license, navigating public transportation or researching college or training opportunities. This course is most appropriate for students in Grade 11.

8857/8858 INSTRUCTIONAL SUPPORT 4 - Non-weighted 12 2.5/2.5 Cr.

In Instructional Support 4, seniors refine their college/career choices and plans for life beyond high school. While some students work on passing course graduation requirements and required MCAS tests, others are busy contacting vocational training programs that do not require a high school diploma. Students work with their special education teachers to prepare for self-advocacy at IEP meetings as they make decisions about signing rights. With guidance and support, students seek out and set up services that will help them after graduation such as setting up accommodations and supports for college, MRC referrals and/or take entrance tests for college or military training programs. Many students learn to set up bank accounts, learn to do their income taxes for the first time, register to vote/military service, and gather information needed to register for college, apply for financial aid and acquire recommendations needed for college entry/scholarships. This course is most appropriate for students in Grade 12.

ADJUSTMENT COURSES

ENGLISH

8021/8022	English 1 (AD) - College	9	2.5/2.5
8023/8024	English 2 (AD) - College	10	2.5/2.5
8025/8026	English 3 (AD) - College	11	2.5/2.5
8027/8028	English 4 (AD) - College	12	2.5/2.5
8051	Literature & Contemporary Youth (AD) - College	10, 11, 12	2.5
8052	Iconic Children's Literature (AD) - College	10, 11, 12	2.5
8061/8062	Balanced Literacy (AD) - College	9	2.5/2.5

MATH

8123/8124	Algebra 1 (AD) - College	9	2.5/2.5
8125/8126	Geometry (AD) - College	10	2.5/2.5
8153/8154	Financial Mathematics & Application (AD) - College	11, 12	2.5/2.5
8129/8130	Math 4 (AD) - College	11, 12	2.5/2.5

SCIENCE

8317/8318	Explorations in Life Science (AD) - College	9	2.5/2.5
8313/8314	Biology (AD) - College	10	2.5/2.5
8330	Earth Science (AD) - College	11, 12	2.5
8331	Human Impact (AD) - College	11, 12	2.5

SOCIAL STUDIES

8411/8412	World History (AD) - College	9	2.5/2.5
8413/8414	US History 1 (AD) - College	10	2.5/2.5
8423	American Foreign Policy since 1776 (AD) - College	11	2.5
8419	Know Your World (AD) - College	10, 11, 12	2.5
8420/8421	Civil Liberties (AD) - College	10, 11	2.5/2.5

PHYSICAL EDUCATION

8903/8904	Physical Education (AD) - Non-weighted	9, 10, 11, 12	2.5/2.5
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WELLNESS

8911	Health A (AD) - Non-weighted	9, 10, 11, 12	2.5/2.5
8912	Health B (AD) - Non-weighted	9, 10, 11, 12	2.5/2.5

SUPPORT

8543	Leadership Through Adventure (AD) - College	10, 11, 12	2.5
8547/8548	Social Dynamics 1 (AD) - College	9R, 10	2.5/2.5
8549/8550	Social Dynamics 2 (AD) - College	10R, 11	2.5/2.5
8873/8874	Instructional Support (AD) - Non-Weighted	9R, 10, 11, 12	2.5/2.5
8981/8982	Freshman Seminar (AD) - Non-Weighted	9	2.5/2.5

8052 **ICONIC CHILDREN'S LITERATURE (AD) - College** **10, 11, 12** **2.5 Cr.**

There are many beautiful and powerful Children's books that are deeply rooted in our society. The symbolism of these stories can be found in our politics, movies, adult literature, television, advertising, and in the college classroom. This course will examine a variety of children's literature with emphasis on parables, fables and allegories. The sophisticated themes and morals of these works will be analyzed and discussed by students with activities that provide text-to-life connection.

8061/8062 **BALANCED LITERACY (AD) - College** **9** **2.5/2.5 Cr.**

Balanced Literacy is an intensive reading intervention program designed to meet the needs of students who are reading below grade level. The program directly addresses individual student needs through adaptive instructional software, high interest fiction and non-fiction, and direct instruction in reading and writing skills.

MATH

8123/8124 **ALGEBRA 1 (AD) - College** **9** **2.5/2.5 Cr.**

Standard topics of introductory algebra are covered, including constants and variables, functions, and properties of real numbers, linear equations, signed numbers, operations with polynomials, word problems leading to linear equations, and factoring. Topics to be studied include rational expressions, graphing, systems of linear equations, ratio, proportion and properties and arithmetic of irrational numbers. This course satisfies an Algebra graduation requirement.

8125/8126 **GEOMETRY (AD) - College** **10** **2.5/2.5 Cr.**

Geometry is developed with a view to proof and logic as well as to its applications to the physical world. Properties of lines, angles and triangles are examined and in some cases deduced from other properties. Properties and measurement of solid figures are studied. The idea of congruence is introduced and the classical postulates and theorems on congruent triangles and parallelograms are discussed. Measurement and applications are emphasized. The idea of similarity is introduced and applied. The right triangle is given special attention. This course satisfies a Geometry graduation requirement.

8153/8154 **FINANCIAL MATHEMATICS (AD) - College** **10R, 11, 12** **2.5/2.5 Cr.**

Students that have passed Algebra I and Geometry will be able to explore real-life Math applications in this course. The course will begin with a brief review of the order of operations, positive and negative numbers, and the relationship and operations of fractions decimals, and percentages. Following this review of prior knowledge, students will engage in various math topics that can be applied to real life. These topics will greatly assist students as they move in to their post-secondary phase of life. Students will also spend time reviewing the MCAS including multiple-choice questions, open response questions, and various testing strategies. Some questions will be focused on data and graphs, including pie charts, bar graphs, and stats including mean, median, and mode. PREREQUISITE: Successful completion of Algebra 1 and Geometry.

8129/8130 **MATH 4 - College (AD) - College** **11, 12** **2.5/2.5 Cr.**

Math 4 is for Juniors/Seniors on an EPP and will reinforce problem solving skills by working with Real Numbers, Equations, Simplification of Algebraic Expressions, Functions, Inequalities, Systems of Equations, Graph Theory, Quadrilaterals and Polygons. This course is designed to target instruction for each student in the areas where they need the most help.

SCIENCE

8317/8318 **EXPLORATIONS IN LIFE SCIENCE (AD) - College** **9** **2.5/2.5 Cr.**

Explorations in Life Science will introduce students to the processes of life in order to allow students to make scientifically informed decisions related to their health, and the health of the planet. It is designed to provide both content knowledge and skills needed to succeed in higher-level Biology courses.

8313/8314 **BIOLOGY (AD) - College** **10** **2.5/2.5 Cr.**

Biology gives students a basic understanding of the scientific processes that make up the unified principles of life. Topics include cellular physiology and function, cellular respiration and photosynthesis, DNA structure and function, genetic mechanisms of inheritance, and evolution. Emphasis is placed on the diversity and unity of the living world, genetic continuity, and changes in organisms over time. This course satisfies a science graduation requirement.

8330 **EARTH SCIENCE (AD) - College** **11, 12** **2.5 Cr.**

In Earth Science students will learn about various topics associated with the earth's land, water and air. These topics will include elements, minerals, rocks, oceans, weather, erosion, plate tectonics and more. Earth science will also include the study of outer space and the objects in it.

8331 **HUMAN IMPACT (AD) - College** **11, 12** **2.5 Cr.**

Earth & Human Impact helps students understand natural resources, natural hazards, human impact on Earth systems, and global climate change. Students understand the complex and significant interdependencies between humans and the rest of Earth's systems through the impacts of natural hazards, our dependencies on natural resources, and the significant environmental impacts of human activities.

PHYSICAL EDUCATION

8903/8904 PHYSICAL EDUCATION (AD) - Non-weighted 10, 11, 12 2.5/2.5 Cr.

Physical Education offers students the opportunity to gain an understanding of the value of leading a physically active lifestyle. Students will also learn the benefits that activity provides toward physical, emotional and social growth. A healthy, physically active student is more likely to be academically motivated, alert and capable of coping with the stress of day to day life. The goal of this program will be to help students achieve successful in school by encouraging consistent participation in physical activity. In addition, units provide an introduction to the rules, skills and strategies of Basketball, Cardio-Vascular Fitness, Cooperative Games, Strength Training, Racquet Sports, Volleyball and Elective Activities.

HEALTH

8911 HEALTH A (AD) - Non-Weighted 9, 10, 11, 12 2.5 Cr.

Health Education includes such topics as wellness, physical health, social health, emotional health, your changing personality, the human body and its systems, nutrition, fitness, drugs as medicines, introduction to substance abuse, tobacco, infectious disease, accident and injury prevention and emergency measures, and lifestyle diseases (diabetes, cancer, cardiovascular disease).

8912 HEALTH B (AD) - Non-Weighted 9, 10, 11, 12 2.5 Cr.

Health Education B strengthens and reviews topics and concepts introduced in Health A. It studies, in depth, such topics as wellness and complementary medicine, stress management, mental and emotional health, the environment and physical health, and the consumer and health care system. Human Sexuality issues include: relationships, gender and orientation, commitment and marriage, family life, conception through parenting, pregnancy and STI prevention, mature life, aging, and death.

SUPPORT

8543 LEADERSHIP THROUGH ADVENTURE (AD) - College 10, 11, 12 2.5 Cr.

Leadership Through Adventure engages students through various games and initiatives. Within the context of these activities, students explore the themes of effective communication, productive teamwork, creating trust, and successful problem-solving. Participants work collaboratively to develop and utilize strategies to accomplish the tasks and goals of presented challenges. Students will evaluate and debrief adventure activities in order to make connections to effective leadership. This course utilizes both low and high energy activities and is primarily based outdoors.

8547/8548 SOCIAL DYNAMICS 1 (AD) - Non-Weighted 9R, 10 2.5/2.5 Cr.

Social Dynamics 1 supports students in their school experience. The curriculum is designed to teach goal-setting and problem-solving strategies; increase students' empathy and self-awareness; help students understand and respond to their disabilities; and assist students as they work to create healthy interpersonal relationships. Students will learn to confront and manage the roadblocks that impede their academic and social success. Students will be given the opportunity to integrate and generalize the skills taught, and will increase their capacity to assimilate into the community. The goal is for students to stay academically engaged, attain graduation status, and become productive citizens of society. This course is intended to be a full year course for a total of 5 credits.

8549/8550 SOCIAL DYNAMICS 2 (AD) - Non-Weighted 11, 11R 2.5/2.5 Cr.

Social Dynamics 2 builds upon the themes introduced in of Social Dynamics I, including in-depth analysis of social/emotional issues and how these issues impact everyday life. A major focus of FSD 2 is fostering greater independence and planning for life after high school. This course also introduces students to various community services and resources. In addition to group discussions and reflective writing, students will participate in authentic learning activities.

8873/8874 INSTRUCTIONAL SUPPORT (AD) - Non-Weighted 9R, 10, 11, 12 2.5/2.5 Cr.

Instructional Support provides direct instruction in the individual goals and objectives listed in each student's IEP. Instruction occurs in small group and/or one on one to support completion of general education class assignments. Special Education teachers monitor students' progress in general education classes and provide assistance and re-teaching as needed. Students learn organizational skills and study skills in this class to help them successfully access the general education curriculum. Assessment data is used to determine the need for remedial instruction and support students as they take the MCAS tests required for high school graduation.

8981/8982 FRESHMAN SEMINAR (AD) - Non-Weighted 9 2.5/2.5 Cr.

Freshman Seminar provides students with an opportunity for "self-study". Throughout the year, students will explore career interests, establish goals, and explore possibilities for post-secondary pathways. This introductory course infuses a PBIS framework and develops students' organizational skills and study habits in order for them to navigate through their Freshman Year successfully. In addition, Freshman Seminar focuses on enhancing student literacy: functional literacy, digital literacy, and financial literacy.

LEAP COURSES

8065/8066	Functional Literacy (JP) – Non-Weighted	9, 10, 11, 12	2.5/2.5
8095/8096	Functional ELA (LEAP) - Non-Weighted	9, 10	2.5/2.5
8133/8134	Functional Math (JP) - Non-Weighted	9, 10	2.5/2.5
8155/8156	Real World Math 1 (JP) – Non-Weighted	11, 12	2.5/2.5
8161/8162	Real World Math 2 (JP) – Non-Weighted	11, 12	2.5/2.5
8315/8316	Functional Science (JP) - Non-Weighted	9, 10	2.5/2.5
8507/8508	Pre-Vocational Education (JP) – Non-Weighted	9, 10, 11, 12	2.5/2.5
8515/8516	Vocational Education (JP) – Non Weighted	11, 12	2.5/2.5
8440/8441	R.A.I.S.E. (JP) – Non-Weighted	9, 10, 11, 12	2.5/2.5
8551/8552	Social Dynamics (JP) - Non-Weighted	9, 10, 11, 12	2.5/2.5
8561/8562	Activities of Daily Living (JP) – Non-Weighted	9, 10, 11, 12	2.5/2.5
8577/8578	Transportation and Mobility (JP) – Non-Weighted	9, 10, 11, 12	2.5/2.5
8603/8604	Everyday Technology (JP) - Non-Weighted	11, 12	2.5/2.5
8921/8922	Health (JP) - Non-Weighted	9, 10, 11, 12	2.5/2.5
9134/9135	Physical Education (JP) - Non-Weighted	9, 10, 11, 12	2.5/2.5
8914/8915	Recreation and Leisure (JP) – Non-Weighted	11, 12	2.5/2.5
8067/8068	Functional Literacy (IN) – Non-Weighted	9, 10, 11, 12	2.5/2.5
8095/8096	Functional ELA (LEAP) - Non-Weighted	9, 10, 11, 12	2.5/2.5
8135/8136	Functional Math (IN) - Non-Weighted	9, 10, 11, 12	2.5/2.5
8157/8158	Real World Math 1 (IN) – Non-Weighted	11, 12	2.5/2.5
8163/8164	Real World Math 2 (IN) – Non-Weighted	11, 12	2.5/2.5
8323/8324	Functional Science (IN) - Non-Weighted	9, 10, 11, 12	2.5/2.5
8442/8443	R.A.I.S.E. (IN) – Non-Weighted	9, 10, 11, 12	2.5/2.5
8509/8510	Pre-Vocational Education (IN) – Non-Weighted	9, 10, 11, 12	2.5/2.5
8517/8518	Vocational Education (IN) – Non Weighted	11, 12	2.5/2.5
8553/8554	Social Dynamics (IN) - Non-Weighted	9, 10, 11, 12	2.5/2.5
8563/8564	Activities of Daily Living (IN) – Non-Weighted	9, 10, 11, 12	2.5/2.5
8579/8580	Transportation and Mobility (IN) – Non-Weighted	9, 10, 11, 12	2.5/2.5
8605/8606	Everyday Technology (IN) - Non-Weighted	11, 12	2.5/2.5
8923/8924	Health (IN) - Non-Weighted	9, 10, 11, 12	2.5/2.5
9136/9137	Physical Education (IN) - Non-Weighted	9, 10, 11, 12	2.5/2.5
8916/8917	Recreation and Leisure (IN) – Non-Weighted	11, 12	2.5/2.5
8069/8070	Functional Literacy (CSA) – Non-Weighted	9, 10, 11, 12	2.5/2.5
8137/8138	Functional Math (CSA) - Non-Weighted	9, 10, 11, 12	2.5/2.5
8159/8160	Real World Math 1 (CSA) – Non-Weighted	11, 12	2.5/2.5
8165/8166	Real World Math 2 (CSA) – Non-Weighted	11, 12	2.5/2.5
8325/8326	Functional Science (CSA) - Non-Weighted	9, 10, 11, 12	2.5/2.5
8444/8445	R.A.I.S.E. (CSA)	9, 10, 11, 12	2.5/2.5
8511/8512	Pre-Vocational Education (CSA) – Non-Weighted	9, 10, 11, 12	2.5/2.5
8519/8520	Vocational Education (CSA) – Non Weighted	11, 12	2.5/2.5
8555/8556	Social Dynamics (CSA) - Non-Weighted	9, 10, 11, 12	2.5/2.5
8565/8566	Activities of Daily Living (CSA) – Non-Weighted	9, 10, 11, 12	2.5/2.5
8581/8582	Transportation and Mobility (CSA) – Non-Weighted	9, 10, 11, 12	2.5/2.5
8607/8608	Everyday Technology (CSA) - Non-Weighted	11, 12	2.5/2.5
8925/8926	Health (CSA) - Non-Weighted	9, 10, 11, 12	2.5/2.5
9138/9139	Physical Education (CSA) - Non-Weighted	9, 10, 11, 12	2.5/2.5
8918/8919	Recreation and Leisure (CSA) – Non-Weighted	11, 12	2.5/2.5

8065/8066 FUNCTIONAL LITERACY (JP) – Non-Weighted 9, 10, 11, 12 2.5/2.5 Cr.

This course focuses on the reading and writing skills students will need to meet the demands of both daily living and the workforce. Understanding printed messages is essential for students to successfully negotiate society. Students will learn strategies to read labels, advertisements, written instructions, signs, paychecks, bills, and more.

8095/8096 FUNCTIONAL ELA (LEAP) - Non-Weighted 9, 10 2.5/2.5 Cr.

Functional ELA provides a structured, systematic, multi-sensory approach to teach students how to decode and encode. The skills taught in this course enhance fluency, comprehension, and improve reading skills to enhance independence and success within the general education curriculum.

8133/8134 FUNCTIONAL MATH (JP) - Non-Weighted 9, 10 2.5/2.5 Cr.

Functional Math teaches students functional mathematical skills and concepts that can be applied to real world situations. This will include calculation skills, money skills, operations, time, calendars, time management, measurement, basic fractions and other functional concepts. The course will teach students to apply topics covered in the classroom that can be applied across the curriculum and generalize skills in different settings. Concepts will be introduced and taught using a variety of flashcards, manipulative materials, functional boards, and hands on materials, as well as paper application skills.

8155/8156 REAL WORLD MATH 1 (JP) – Non-Weighted 11, 12 2.5/2.5 Cr.

Students will learn about and practice mathematical concepts used in everyday living. Attention will be paid to identifying currency, using money to pay for products/services, using banking services, making basic measurements, and telling time. Students will have opportunities to use and apply mathematical concepts while participating in community activities.

8161/8162 REAL WORLD MATH 2 (JP) – Non-Weighted 11, 12 2.5/2.5 Cr.

Real World Math 2 expands upon the concepts taught in Real World Math 1. Additional concepts include creating a household budget, calculating and paying taxes, keeping financial records, and using credit responsibly.

8315/8316 FUNCTIONAL SCIENCE (JP) - Non-Weighted 9, 10 2.5/2.5 Cr.

Science covers such areas as General Science, Earth & Space Science, Life Science, basic Biology and Human Anatomy. It streamlines content vocabulary, comprehension materials and communication skills throughout the course. Students will use a variety of visuals, flashcards, functional boards, videos, manipulative and hands-on materials, as well as paper application skills.

8440/8441 RAISE: RESPONSIBIITY, ADVOCACY, AND INTERPERSONAL SKILLS EDUCATION (JP) – Non-Weighted 9, 10, 11, i2 2.5/2.5 Cr.

In the RAISE course, students will learn about personal responsibility and how one's behavior affects others. Students will also work on identifying their own needs and develop the skills to communicate these needs to others. Through participation in a variety of activities, students will practice both their communication and listening skills. This course also covers disability awareness and disability rights.

8551/8552 SOCIAL DYNAMICS (JP) - Non-Weighted 9, 10 2.5/2.5 Cr.

Social Dynamics offers students the opportunity to learn, practice and generalize pragmatic language (e.g., making inferences, determining solutions, problem solving, interpreting perspectives, transferring insights), nonverbal and verbal communication skills (e.g., eye contact, feedback, turn taking, personal space, topic maintenance, body language, commenting, clarification, tone of voice), social skills (e.g., speaking with formal and informal communication partners, beginning and maintaining relationships), and self-advocacy skills.

8561/8562 ACTIVITIES OF DAILY LIVING (JP) – Non-Weighted 9, 10, 11, 12 2.5/2.5 Cr.

Students will develop the life skills required to live as independently as possible. Topics include selecting, setting up, and maintaining a household; meal planning and preparation; and purchasing and caring for clothes. Students will also learn how to address a variety of personal needs, including personal grooming, medical issues, dressing appropriately, and safety.

8577/8578 TRANSPORTATION AND MOBILITY (JP) – Non-Weighted 9, 10, 11, 12 2.5/2.5 Cr.

Getting around the community, whether it is within a school, a city, or beyond, is an essential life skill. This course addresses transportation and mobility by meeting students at their instructional levels. Learning objectives include navigating the school building; demonstrating knowledge of traffic rules and safety; reading community signs; identifying and using different forms of public transportation; and understanding the responsibilities associated with driving a car.

8507/8508 PRE-VOCATIONAL EDUCATION (JP) – Non-Weighted 9, 10, 11, 12 2.5/2.5 Cr.

Students will explore employment choices through identifying employment interests, aptitudes, realistic employment requirements, and areas of employment need. Students will also classify jobs into categories and investigate local employment and training opportunities, along with practicing job application and interview skills. This course also provides instruction in the soft skills needed for successful employment.

8515/8516 VOCATIONAL EDUCATION (JP) – Non-Weighted 11, 12 2.5/2.5 Cr.

Through participating in various internships and work opportunities throughout the school and community, students will demonstrate proficiency in following directions, meeting various job standards, solving job-related problems, and working with others. Students will also continue to practice searching, applying, and interviewing for jobs.

8603/8604 EVERYDAY TECHNOLOGY (JP) – Non-Weighted 11, 12 2.5/2.5 Cr.

Students will learn how to manage and utilize technology effectively to help them succeed at home and on the job. This course will introduce students to different types of technology (such as computers, cell phones, tablets, etc.) based on individual readiness.

8921/8922 HEALTH (JP) - Non-Weighted 9, 10, 11, 12 2.5/2.5 Cr.

Health focuses on a variety of topics such as wellness, human anatomy and its systems, nutrition, drug and alcohol awareness, first aid & personal safety, CPR, and personal hygiene skills. The course is designed to help prepare the students for adolescent and adult social interaction and situations and how to deal with them at as high an independent level as possible.

8914/8915 RECREATION AND LEISURE (JP) – Non-Weighted 11, 12 2.5/2.5 Cr.

Recreation and leisure activities provide students will opportunities for community involvement, increase the development of friendships, and increase self-confidence. It is critical for all students to have knowledge of possible leisure activities and available resources. As part of the Recreation and Leisure course, students will explore, choose, and plan a variety of recreational and leisure activities. Through engaging in a variety of group activities, students will learn the value of recreation.

9134/9135 PHYSICAL EDUCATION (JP) - Non-Weighted 9, 10, 11, 12 2.5/2.5 Cr.

Physical Education classes are designed for individuals with special needs. Classes offer students a challenging range of activities to improve coordination, attention, physical health and self-esteem. Participants are offered a variety of activities such as walking, volleyball, soccer, hockey, biking, whiffle ball and jump rope.

8067/8068 FUNCTIONAL LITERACY (IN) – Non-Weighted 9, 10, 11, 12 2.5/2.5 Cr.

This course focuses on the reading and writing skills students will need to meet the demands of both daily living and the workforce. Understanding printed messages is essential for students to successfully negotiate society. Students will learn strategies to read labels, advertisements, written instructions, signs, paychecks, bills, and more.

8095/8096 FUNCTIONAL ELA (LEAP) - Non-Weighted 9, 10, 11, 12 2.5/2.5 Cr.

Functional ELA provides a structured, systematic, multi-sensory approach to teach students how to decode and encode. The skills taught in this course enhance fluency, comprehension, and improve reading skills to enhance independence and success within the general education curriculum

8135/8136 FUNCTIONAL MATH (IN) - Non-Weighted 9, 10, 11, 12 2.5/2.5 Cr.

Functional Math teaches students functional mathematical skills and concepts that can be applied to real world situations. This will include calculation skills, money skills, operations, time, calendars, time management, measurement, basic fractions and other functional concepts. The course will teach students to apply topics covered in the classroom that can be applied across the curriculum and generalize skills in different settings. Concepts will be introduced and taught using a variety of flashcards, manipulative materials, functional boards, and hands on materials, as well as paper application skills.

8157/8158 REAL WORLD MATH 1 (IN) – Non-Weighted 11, 12 2.5/2.5 Cr.

Students will learn about and practice mathematical concepts used in everyday living. Attention will be paid to identifying currency, using money to pay for products/services, using banking services, making basic measurements, and telling time. Students will have opportunities to use and apply mathematical concepts while participating in community activities.

8163/8164 REAL WORLD MATH 2 (IN) – Non-Weighted 11, 12 2.5/2.5 Cr.

Real World Math 2 expands upon the concepts taught in Real World Math 1. Additional concepts include creating a household budget, calculating and paying taxes, keeping financial records, and using credit responsibly.

8323/8324 FUNCTIONAL SCIENCE (IN) - Non-Weighted 9, 10, 11, 12 2.5/2.5 Cr.

Science covers such areas as General Science, Earth & Space Science, Life Science, basic Biology and Human Anatomy. It streamlines content vocabulary, comprehension materials and communication skills throughout the course. Students will use a variety of visuals, flashcards, functional boards, videos, manipulative and hands-on materials, as well as paper application skills.

**8442/8443 RAISE: RESPONSIBIITY, ADVOCACY, AND INTERPERSONAL
SKILLS EDUCATION (IN) – Non-Weighted 9, 10, 11, 12 2.5/2.5 Cr.**

In the RAISE course, students will learn about personal responsibility and how one's behavior affects others. Students will also work on identifying their own needs and develop the skills to communicate these needs to others. Through participation in a variety of activities, students will practice both their communication and listening skills. This course also covers disability awareness and disability rights.

8553/8554 SOCIAL DYNAMICS (IN) - Non-Weighted 9, 10, 11, 12 2.5/2.5 Cr.

Social Dynamics offers students the opportunity to learn, practice and generalize pragmatic language (e.g., making inferences, determining solutions, problem solving, interpreting perspectives, transferring insights), nonverbal and verbal communication skills (e.g., eye contact, feedback, turn taking, personal space, topic maintenance, body language, commenting, clarification, tone of voice), social skills (e.g., speaking with formal and informal communication partners, beginning and maintaining relationships), and self-advocacy skills.

8563/8564 ACTIVITIES OF DAILY LIVING (IN) – Non-Weighted 9, 10, 11, 12 2.5/2.5 Cr.

Students will develop the life skills required to live as independently as possible. Topics include selecting, setting up, and maintaining a household; meal planning and preparation; and purchasing and caring for clothes. Students will also learn how to address a variety of personal needs, including personal grooming, medical issues, dressing appropriately, and safety.

8579/8580 TRANSPORTATION AND MOBILITY (IN) – Non-Weighted 9, 10, 11, 12 2.5/2.5 Cr.

Getting around the community, whether it is within a school, a city, or beyond, is an essential life skill. This course addresses transportation and mobility by meeting students at their instructional levels. Learning objectives include navigating the school building; demonstrating knowledge of traffic rules and safety; reading community signs; identifying and using different forms of public transportation; and understanding the responsibilities associated with driving a car.

8509/8510 PRE-VOCATIONAL EDUCATION (IN) – Non-Weighted 9, 10, 11, 12 2.5/2.5 Cr.

Students will explore employment choices through identifying employment interests, aptitudes, realistic employment requirements, and areas of employment need. Students will also classify jobs into categories and investigate local employment and training opportunities, along with practicing job application and interview skills. This course also provides instruction in the soft skills needed for successful employment.

8517/8518 VOCATIONAL EDUCATION (IN) – Non-Weighted 11, 12 2.5/2.5 Cr.

Through participating in various internships and work opportunities throughout the school and community, students will demonstrate proficiency in following directions, meeting various job standards, solving job-related problems, and working with others. Students will also continue to practice searching, applying, and interviewing for jobs.

8916/8917 RECREATION AND LEISURE (IN) – Non-Weighted 11, 12 2.5/2.5 Cr.

Recreation and leisure activities provide students will opportunities for community involvement, increase the development of friendships, and increase self-confidence. It is critical for all students to have knowledge of possible leisure activities and available resources. As part of the Recreation and Leisure course, students will explore, choose, and plan a variety of recreational and leisure activities. Through engaging in a variety of group activities, students will learn the value of recreation.

8605/8606 EVERYDAY TECHNOLOGY (IN) – Non-Weighted 11, 12 2.5/2.5 Cr.

Students will learn how to manage and utilize technology effectively to help them succeed at home and on the job. This course will introduce students to different types of technology (such as computers, cell phones, tablets, etc.) based on individual readiness.

8923/8924 HEALTH (IN) - Non-Weighted 9, 10, 11, 12 2.5/2.5 Cr.

Health focuses on a variety of topics such as wellness, human anatomy and its systems, nutrition, drug and alcohol awareness, first aid & personal safety, CPR, and personal hygiene skills. The course is designed to help prepare the students for adolescent and adult social interaction and situations and how to deal with them at as high an independent level as possible.

9136/9137 PHYSICAL EDUCATION (IN) - Non-Weighted 9, 10, 11, 12 2.5/2.5 Cr.

Physical Education classes are designed for individuals with special needs. Classes offer students a challenging range of activities to improve coordination, attention, physical health and self-esteem. Participants are offered a variety of activities such as walking, volleyball, soccer, hockey, biking, whiffle ball and jump rope.

8069/8070 FUNCTIONAL LITERACY (CSA) – Non-Weighted 9, 10, 11, 12 2.5/2.5 Cr.

This course focuses on the reading and writing skills students will need to meet the demands of both daily living and the workforce. Understanding printed messages is essential for students to successfully negotiate society. Students will learn strategies to read labels, advertisements, written instructions, signs, paychecks, bills, and more.

8137/8138 FUNCTIONAL MATH (CSA) - Non-Weighted 9, 10, 11, 12 2.5/2.5 Cr.

Functional Math teaches students functional mathematical skills and concepts that can be applied to real world situations. This will include calculation skills, money skills, operations, time, calendars, time management, measurement, basic fractions and other functional concepts. The course will teach students to apply topics covered in the classroom that can be applied across the curriculum and generalize skills in different settings. Concepts will be introduced and taught using a variety of flashcards, manipulative materials, functional boards, and hands on materials, as well as paper application skills.

8159/8160 REAL WORLD MATH 1 (CSA) – Non-Weighted 11, 12 2.5/2.5 Cr.

Students will learn about and practice mathematical concepts used in everyday living. Attention will be paid to identifying currency, using money to pay for products/services, using banking services, making basic measurements, and telling time. Students will have opportunities to use and apply mathematical concepts while participating in community activities.

8165/8166 REAL WORLD MATH 2 (CSA) – Non-Weighted 11, 12 2.5/2.5 Cr.

Real World Math 2 expands upon the concepts taught in Real World Math 1. Additional concepts include creating a household budget, calculating and paying taxes, keeping financial records, and using credit responsibly.

8325/8326 FUNCTIONAL SCIENCE (CSA) - Non-Weighted 9, 10, 11, 12 2.5/2.5 Cr.

Science covers such areas as General Science, Earth & Space Science, Life Science, basic Biology and Human Anatomy. It streamlines content vocabulary, comprehension materials and communication skills throughout the course. Students will use a variety of visuals, flashcards, functional boards, videos, manipulative and hands-on materials, as well as paper application skills.

**8444/8445 RAISE: RESPONSIBIITY, ADVOCACY, AND INTERPERSONAL
SKILLS EDUCATION (CSA) – Non-Weighted 9, 10, 11, 12 2.5/2.5 Cr.**

In the RAISE course, students will learn about personal responsibility and how one's behavior affects others. Students will also work on identifying their own needs and develop the skills to communicate these needs to others. Through participation in a variety of activities, students will practice both their communication and listening skills. This course also covers disability awareness and disability rights.

8511/8512 PRE-VOCATIONAL EDUCATION (CSA) – Non-Weighted 9, 10, 11, 12 2.5/2.5 Cr.

Students will explore employment choices through identifying employment interests, aptitudes, realistic employment requirements, and areas of employment need. Students will also classify jobs into categories and investigate local employment and training opportunities, along with practicing job application and interview skills. This course also provides instruction in the soft skills needed for successful employment.

8519/8520 VOCATIONAL EDUCATION (CSA) – Non-Weighted 11, 12 2.5/2.5Cr.

Through participating in various internships and work opportunities throughout the school and community, students will demonstrate proficiency in following directions, meeting various job standards, solving job-related problems, and working with others. Students will also continue to practice searching, applying, and interviewing for jobs.

8555/8556 SOCIAL DYNAMICS (CSA) - Non-Weighted 9, 10, 11, 12 2.5/2.5 Cr.

Social Dynamics offers students the opportunity to learn, practice and generalize pragmatic language (e.g., making inferences, determining solutions, problem solving, interpreting perspectives, transferring insights), nonverbal and verbal communication skills (e.g., eye contact, feedback, turn taking, personal space, topic maintenance, body language, commenting, clarification, tone of voice), social skills (e.g., speaking with formal and informal communication partners, beginning and maintaining relationships), and self-advocacy skills.

8565/8566 ACTIVITIES OF DAILY LIVING (CSA) – Non-Weighted 9, 10, 11, 12 2.5/2.5 Cr.

Students will develop the life skills required to live as independently as possible. Topics include selecting, setting up, and maintaining a household; meal planning and preparation; and purchasing and caring for clothes. Students will also learn how to address a variety of personal needs, including personal grooming, medical issues, dressing appropriately, and safety.

8581/8582 TRANSPORTATION AND MOBILITY (CSA) – Non-Weighted 9, 10, 11, 12 2.5/2.5 Cr.

Getting around the community, whether it is within a school, a city, or beyond, is an essential life skill. This course addresses transportation and mobility by meeting students at their instructional levels. Learning objectives include navigating the school building; demonstrating knowledge of traffic rules and safety; reading community signs; identifying and using different forms of public transportation; and understanding the responsibilities associated with driving a car.

8607/8608 EVERYDAY TECHNOLOGY (CSA) – Non-Weighted 11, 12 2.5/2.5 Cr.

Students will learn how to manage and utilize technology effectively to help them succeed at home and on the job. This course will introduce students to different types of technology (such as computers, cell phones, tablets, etc.) based on individual readiness.

8925/8926 HEALTH (CSA) - Non-Weighted 9, 10, 11, 12 2.5/2.5 Cr.

Health focuses on a variety of topics such as wellness, human anatomy and its systems, nutrition, drug and alcohol awareness, first aid & personal safety, CPR, and personal hygiene skills. The course is designed to help prepare the students for adolescent and adult social interaction and situations and how to deal with them at as high an independent level as possible.

9138/9139 PHYSICAL EDUCATION (CSA) - Non-Weighted 9, 10, 11, 12 2.5/2.5 Cr.

Physical Education classes are designed for individuals with special needs. Classes offer students a challenging range of activities to improve coordination, attention, physical health and self-esteem. Participants are offered a variety of activities such as walking, volleyball, soccer, hockey, biking, whiffles ball and jump rope.

8918/8919 RECREATION AND LEISURE (CSA) – Non-Weighted 11, 12 2.5/2.5 Cr.

Recreation and leisure activities provide students will opportunities for community involvement, increase the development of friendships, and increase self-confidence. It is critical for all students to have knowledge of possible leisure activities and available resources. As part of the Recreation and Leisure course, students will explore, choose, and plan a variety of recreational and leisure activities. Through engaging in a variety of group activities, students will learn the value of recreation.

ACADEMIC PROGRAMS

LOWELL LATIN LYCEUM

The Lowell High School Latin Lyceum is a selective admissions exam program within Lowell High School that engages academically promising students in a challenging college preparatory curriculum intended to broaden and deepen their knowledge, skills, understandings, and civic commitment with an emphasis on a classical education.

Objectives of the academic program include: development of critical and logical thinking, precise communication, scientific analysis, creative problem solving, and empathetic understanding of the social, scientific and political backgrounds of civilization. Communicating clearly and effectively as well as reasoning quantitatively will extend across the disciplines through a constant collaboration among the Lowell Latin Lyceum faculty team.

The Lowell Latin Lyceum strives to create young scholars in the classical tradition who are well-rounded, cultured, self-disciplined, critical thinkers who can compete at the highest academic levels. The Lowell Latin Lyceum will:

- Provide a fully integrated environment.
- Promote regular and continuous intellectual growth.
- Promote cultural and linguistic sensitivity.
- Encourage teachers, parents, and students to be partners in the educational process.
- Ensure that learning occurs in both the cognitive and affective dimensions.
- Provide the opportunities for independent learning and research.

Latin Lyceum Course Selection Information

Graduation Requirements:

Math	4 years
English	4 years
Social Studies	4 years
Science	4 years
World Language	3 years Latin
Health A/B*	1 year
Physical Education*	4 years
LL Freshman Seminar	1 year

*Band or Dance can substitute for PE; ROTC can substitute for PE & Health.

LATIN LYCEUM

~ COURSE REQUIREMENTS ~

Grade 9	HH-English 1 HH-World History H-Integrated Science H-Algebra 1 <u>or</u> HH-Geometry H-Latin LL Seminar Physical Education/Health*
Grade 10	HH-English 2 AP European History H-Biology H-Geometry <u>or</u> HH-Geometry <u>or</u> HH-Algebra 2/Trig H-Latin 2 Physical Education/Health*
Grade 11	HH-American Studies AP-US 1 H-level or higher Science course H or AP level Math H-Latin 3 or AP-Latin 3 Physical Education*
Grade 12	AP-English 4 AP-US 2 H-level or higher Science course H or AP level Math H-Latin 4 or AP-Latin 4 (Recommended) Physical Education*

*Band, Dance or Show Choir can substitute for PE; ROTC can substitute for PE & Health.

CLEMENT GREGORY McDONOUGH FRESHMAN ACADEMY

The vision of Lowell High School's Freshman Academy is to provide students with an environment that supports and sustains continued learning and mutual respect. Our goal is to insure that all students who enter as freshmen successfully leave with the skills and knowledge needed to enter grade 10. The Freshman Academy operates on a cluster model comprised of teams of 8 -12 academic teachers, a guidance counselor, and student support specialist who share the same students with the assistance of a school social worker. These teams provide instruction and support addressing the importance of academics, discipline, and attendance to further academic growth and achievement for all students. The cluster model nurtures individual students to become active participants in a community of learners. This learning environment is most responsive to the emerging needs and talents of students who are making the transition to a high school setting. The challenges students meet and the experiences they gain in the Freshmen Academy will help to insure their continued academic success at Lowell High School.

The cluster teams are comprised of teachers from four core courses: English, Social Studies, Math, and Science. Three levels of courses are offered: High Honors, Honors and College. Students must be enrolled at the same levels in the humanities courses and at the same levels in the STEM courses. For example, if a student is enrolled in high honors English, he or she must also be enrolled in high honors history. Students also take one of the non-weighted Freshman Seminars. The traditional Seminar course provides students content-based literacy skills, organization and time management techniques, as well as units on academic requirements, goal setting, career awareness, and MCAS skill building. Math Seminar is an intervention course designed to meet the needs of students with math skills below grade level.

All freshman students must take a semester of Health and a semester of Physical Education. However, Band or Show Choir may be substituted for this Physical Education requirement and AFJROTC may be substituted for both this Physical Education and Health requirement.

Please choose your freshman courses carefully. Course changes after an assignment to a cluster cannot be routinely granted. Our past experience indicates that proper initial placement within the freshman cluster is the key to a student's overall success in high school.

Parents should consult with school counselors and/or eighth grade teachers, if they are not sure of the appropriate academic level for the ninth grade courses.

FRESHMAN ACADEMY

~ Sample Schedules ~

College – Level College – Level

0131/0132	English 1
4121/4122	Essential Skills in World History
1121/1122	Algebra 1
3131/3132	Integrated Science
9201/9202	Freshman Seminar
9001/9011*	Physical Education/Health
xxxx/xxxx	Elective

(English and Math Assigned)

0111/0112	Explorations in English
4121/4122	Essential Skills in World History
1111/1112	Transitions to Algebra
3131/3132	Integrated Science
9201/9202	Freshman Seminar
9001/9011*	Physical Education/Health
xxxx/xxxx	Elective

Honors – Level

0141/0142	English 1
4141/4142	World History
1141/1142	Algebra 1
3141/3142	Integrated Science
9201/9202	Freshman Seminar
9005/9011*	Physical Education/Health
xxxx/xxxx	Elective

High Honors – Level

0151/0152	English 1
4181/4182	World History
1251/1252	Geometry
3141/3142	Integrated Science
9201/9202	Freshman Seminar
9005/9011*	Physical Education/Health
xxxx/xxxx	Elective

Latin Lyceum

0151/0152	English 1
4181/4182	World History
1141/1142	Algebra 1 or 1251/1252 Geometry & Analytic Geometry
3141/3142	Integrated Science
9205/9206	Latin Lyceum Seminar
9005/9011*	Physical Education/Health
2113/2114	Latin

Students will be placed in Geometry and Analytic Geometry based on their Math Placement Exam score.

Elective Offerings: Please see the LHS Course Catalog for a full listing of course electives.

* Band (7141/7142), Dance (7901/7902) or Show Choir (7301/7302) can substitute for Physical Education. ROTC (9321/9322) can substitute for Physical Education and Health***

ADVANCED PLACEMENT

Lowell High School offers 15 Advanced Placement (AP) courses throughout its curriculum. Advanced Placement is a nationwide program that is designed to prepare high school students for higher education. AP classes provide rigorous, college-level curriculum in various subjects and the opportunity to earn college credits or advanced college standing. The AP program is made possible by the close cooperation of secondary schools, colleges, and the College Board.

Students at Lowell High School are encouraged to take Advanced Placement courses so that they will experience rigorous, college-level work in high school. LHS currently offers 15 Advanced Placement courses in five different departments. A complete list of courses is available below. Students and parents are urged to read the AP course descriptions to understand the level of work expected. In addition, they are encouraged to seek advice from teachers, counselors, and department chairs about which AP classes would be the best fit with their high school program and their college and career plans.

LHS AP Course Offerings

0461/0462	English 4 AP	English	12	2.5/2.5
1651/1652	Computer Programming AP	Math, Technology	11, 12	2.5/2.5
1475/1476	Calculus AB AP	Math	11, 12	2.5/2.5
1477/1478	Calculus BC AP	Math	12	2.5/2.5
1465/1466	Statistics AP	Math	11, 12	2.5/2.5
3461/3462	Physics 1 AP	Science	11, 12	5/5
3463/3464	Physics 2 (LS) AP	Science	11, 12	5/5
4261/4262	U. S. History 1 - AP	Social Studies	10	2.5/2.5
4361/4362	U. S. History 2 - AP	Social Studies	11	2.5/2.5
4561/4562	European History - AP	Social Studies	11, 12	2.5/2.5
4661/4662	U.S. Government and Politics AP	Social Studies	12	2.5/2.5
4445/4446	Psychology AP	Social Studies	12	2.5/2.5
2545/2546	Spanish 4 AP	World Language	11, 12	2.5/2.5
	Latin AP	World Language	12	2.5/2.5

(Students taking 4 years of Latin are eligible for the Latin AP Exam)

DUAL ENROLLMENT PROGRAM

Qualified students can earn both high school and college credit through this program by taking select Massachusetts State Universities and Community Colleges courses. These courses are part of the regular credit-earning program of U-Mass Lowell or Middlesex Community College with instruction provided by college and/or Lowell High School teachers. Students are awarded High School credit and College credit at their respective institutions.

MCC

- Students must be of Junior or Senior Standing
- Students must have a minimum SAT or PSAT score of 480 in Evidenced Based Reading and Writing;
- Students must have an overall LHS GPA of 2.5 or better
- Instruction given by Lowell High School teachers

UMASS – LOWELL

- Students must be of Junior or Senior Standing
- Students must meet course prerequisites
- Instruction given by college professors and Lowell High School teachers
- In some cases, no grades are assigned for first or third marking periods. This may impact rank in class during these marking periods.
- A final grade is awarded at the completion of each course. This will coincide with second and fourth marking periods.

LHS DUAL ENROLLMENT COURSE OFFERINGS

0463/0464	English Composition - MCC	English	12	2.5/2.5
3971	Intro to Engineering (LS) – MCC	Science	12	2.5
3731/3732	Principles of Biology – UML	Science	11, 12	2.5/2.5
3250	General Biology 1(LS) – MCC	Science	11, 12	2.5
3735	Environmental Studies (LS) - MCC	Science	11, 12	2.5
3721/3722	Chemistry (LS) – UML	Science	11, 12	4/4
3723/2724	Chemistry Lab – UML	Science	11, 12	1/1
4435	Intro to Sociology - MCC	Social Studies	12	2.5
4447	Intro to Psychology - MCC	Social Studies	12	2.5
7871	Film and Society – MCC	Fine Arts	12	2.5

ARTICULATION AGREEMENTS

Lowell High School has articulation agreements for select courses with Middlesex Community College, Johnson and Wales, Lincoln Culinary Institute and Central Maine Community College. Articulation Agreements provide students with college credits for successfully completing Lowell High School courses should they attend the school specified.

Each school has a minimum grading and attendance requirement in addition to other criteria that need to be met before credit is recognized by the colleges. Students must attend the school issuing credits through the Articulation Agreement. Students should consult their Guidance Counselor for more information.

MIDDLESEX COMMUNITY COLLEGE

Business

6111/6112 Accounting I or
6113/6114 Accounting I

BUS 120 Intro to Accounting I

6211/6212 Business Law or
6213/6214 Business Law

LGL 102 Business Law

6141 Personal Finance or
6143 Personal Finance

BUS121 Personal Money Management

6161 Introduction to Financial Services and
6162 Introduction to Financial Services

BUS 124 Cooperative Field Experience I

TV Production

7825/7826 Introduction to TV Production

COM 121 Introduction to TV Production
(3 Credits)

Health and Bioscience

9023/9024 Medical Terminology

MAS 101 Medical Terminology

Culinary

Culinary Arts – Beginners and
Culinary Arts – Intermediate and
Culinary Arts – Advanced

BUS 155 Culinary Theory (3 Credits) and
BUS 156 Culinary Skills (3 Credits) and
BUS 157 Bakery and Pastry Skills (3 Credits) and
BUS 158 Sanitation and Food Service Operations
(3 Credits)

Culinary

Lincoln Culinary Institute

Culinary Arts – Beginners and
Culinary Arts – Intermediate and
Culinary Arts – Advanced

CUL 140 Introduction to Culinary Arts

Johnson and Wales University

Culinary Arts – Beginners and
Culinary Arts – Intermediate and
Culinary Arts – Advanced

CUL 1345 Introduction to Baking and Pastry
CUL 1355 New World Cuisine
CUL 1385 Fundamentals of Food Service
Production (9 Credits)

Central Maine Community College

Culinary Arts – Beginners and
Culinary Arts – Intermediate and
Culinary Arts – Advanced

CUA 121 Food Preparation Sanitation
CUA 171 Nutrition and Food Quality

LHS PATHWAYS

The Lowell High School Pathway Programs are directly connected to the skills and knowledge students need for post-secondary education and careers in some of the fastest growing professions in the world today.

Our Pathway Programs provide opportunities for all students and their different abilities, interests and talents. Whether a student is planning to work immediately after high school, or will continue learning by attending a training program, a technical institute, a college or university, there are courses in our Pathway Programs that are right for every student.

LHS PATHWAY PROGRAMS:

Air Force Junior ROTC
Business: Marketing & Finance
Civics, Citizenship & Communities
Communications (STEM)
Culinary Arts
Education
Engineering (STEM)
Environmental Sustainability (STEM)
Fine Arts
Health & Bioscience (STEM)

Our Pathway Programs use an applied, hands-on/minds-on approach to learning that is connected to real-world work experiences. Students in these programs have access to some unique facilities, including: a newly renovated restaurant, the J'eanne D'Arc Credit Union, the 1826 School Store, an in-house television/media center, and state-of-the-art robotics equipment and MakerSpace. We also partner with local employers as we grow our externship/internship programs providing students an opportunity to apply the classroom skills to intern positions in the workplace.

Benefits of the Pathway Programs include:

- Courses tailored to a specific area of study, with a strong post-secondary and career focus.
- Teachers with industry experience as well as educational certifications.
- Skill-building around career trajectories and paths of study.
- Opportunities for students, parents, teachers and community members to be partners in the educational process.
- Internships within the community and Dual-Enrollment opportunities with UML and Middlesex Community College.
- Opportunities for independent learning and research.

For more information about our Pathway Programs, please contact:

Amy McLeod, Director of Curriculum, Instruction, and Assessment at (978) 937-8901

AIR FORCE JUNIOR ROTC PATHWAY

The Air Force Junior ROTC Pathway is a four-year citizenship program designed to develop citizens of character dedicated to serving their nation and community. The objectives of JROTC are to educate and train high school cadets in citizenship, promote community service, instill responsibility, character, and self-discipline, and provide instruction in air and space fundamentals.

The AFJROTC program is grounded in the Air Force core values of integrity first, service before self, and excellence in all we do. The curriculum emphasizes the Air Force heritage and traditions, the development of flight, applied flight sciences, military aerospace policies, and space exploration. The curriculum shows students how to reach their full potential while serving society through self-discipline, structure, followership, and leadership. Students are challenged by assuming various leadership positions throughout the Lowell High School Cadet Corps. Senior Cadets get a taste of management organizing, planning, and coordinating numerous activities, cadets get “hands on” application of lessons learned in class.

In addition to the classroom curriculum, AFJROTC Pathway students have the opportunity to get involved in the community through a myriad of community service projects that are organized and led by cadets. Students are also eligible for learning field trips that enhance and supplement the classroom environment.

Curriculum opportunities include:

- Academic studies
- Character education
- Life skills education
- Leadership opportunities
- Team-building experiences
- Intramural competition
- Extracurricular activities including Drill Team and Honor Guard
- Field trips and other training opportunities

AFJROTC CORE COURSES (Years 1 & 2):

9321/9322 AFJROTC 1 - Aviation History
9323/9324 AFJROTC 2 - Science of Flight

AFJROTC CORE COURSES (Years 3 & 4)

9325/9326 AFJROTC 3 - Life Skills/Careers
9327/9328 AFJROTC 4 - Mgmt/Cadet Corps or
9337/9338 AFJROTC 4 - Principles of Management

ELECTIVE COURSES AVAILABLE:

9351/9352 Flight Commander
9393/9394 Aviation Ground School
9381 Cadet Leadership Course

***All Pathway students must earn a minimum of 10 credits in the Air Force Junior ROTC Pathway to receive the designation of Air Force Junior ROTC Concentration status on the student’s final transcript.**

BUSINESS

~MARKETING/FINANCE PATHWAYS~

The Lowell High School Business Department offers Pathways with concentrations in Finance or Marketing for students interested in majoring in Business Administration in college or entering the workforce in the areas of finance, banking or accounting. Students in this Pathway are eligible to join Business Professionals of America (BPA). This co-curricular student organization provides students with the opportunity for educational and leadership development, personal and professional growth, and career related competencies.

Our students have the ability to work in the 1826 School Store, with a site in the high school and another in the downtown. Students experience the excitement and challenges of being a small business owner. Our partnership with the Jeanne D'Arc Credit Union allows students to work in the LHS branch of the Jeanne D'Arc Credit Union where students learn the day-to-day operations of the banking industry. All of these valuable business opportunities allow students to earn high school credit and real world experiences at the same time.

The Business Department has articulation agreements with Middlesex Community College for several courses, providing students an opportunity to complete entry-level requirements for MCC while earning credit for these courses at LHS.

Marketing Concentration

Survey Courses:

6309	Marketing - College
6350	Sports and Entertainment Marketing – College
6015	Microsoft Office Specialist - College
6313/6314	Entrepreneurship – Honors
6317	Digital Social Media - Honors
6353	Tourism and Hotel Management - College

Upper-level/Concentrated Courses:

6315	Retail Marketing (1826 School Store) - Honors
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Financial Concentration

Survey Courses:

6111/6112	Accounting 1 - College
6113/6114	Accounting 1 - Honors
6141	Personal Finance - College
6143	Personal Finance - Honors
6211/6212	Business Law - College
6213/6214	Business Law - Honors

Upper-level/Concentrated Courses:

6161	Intro to Financial Services (JDCU) - Honors
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***Business Finance Pathway students must earn a minimum of 10 credits in the above courses to receive the designation of Financial Concentration status on the student's final transcript.**

BUSINESS

~CTE MARKETING PROGRAM~

The Marketing Pathway offered through the Business Department is geared toward students interested in majoring in Business Administration in college or entering the workforce in the areas of Marketing, Accounting and Finance. This is a Massachusetts Department of Elementary and Secondary Education CTE program and students are required to apply for this pathway through their guidance counselor and fulfill the requirements of the program to receive the full designation on their transcripts.

The Marketing Pathway offers students authentic learning opportunities in the 1826 School Store and the LHS branch of the Jeanne D'Arc Credit Union. Students also benefit from the opportunity to achieve industry certification in OSHA and NRF Customer Service and Sales.

Students in this Pathway are eligible to join Business Professionals of America (BPA) a student organization which provides students with the opportunity for educational and leadership development, personal and professional growth, and career related competencies.

The Business Department also has articulated a number of its courses with Middlesex Community College, providing students an opportunity to complete entry-level requirements for MCC while earning credit for these courses at LHS.

CTE Marketing Program Course of Study:

Grade 10

6309	Marketing - College
6350	Sports and Entertainment Marketing – College
Course #	Microsoft Office Specialist - College

Grade 11

6313/6314	Entrepreneurship – Honors
6111/6112 or 6113/6114	Accounting 1 – College /Accounting 1 - Honors
6211/6212 or 6213/6214	Business Law – College / Business Law – Honors

Grade 12

6317	Digital Social Media - Honors
6353	Tourism and Hotel Management - College
6141 or 6143	Personal Finance – College / Personal Finance - Honors
6315	Retail Marketing - Honors (1826 School Store)
6161	Intro to Financial Services - College (Jeanne D'Arc Credit Union)

*** Marketing Pathway students must earn a minimum of 25 credits in the above courses to receive the designation of Marketing Program status on the student's final transcript.**

CIVICS, CITIZENSHIP & COMMUNITIES PATHWAY

The Civics, Citizenship, and Communities Pathway is dedicated to educating student to be competent citizens who understand the rights and responsibilities of individuals in their community at the local, state, national, and international level. Within the Pathway, students will examine the various communities that make up Lowell and the United States, in order to probe the voice, contributions, and responsibilities of citizens in the 21st century. By providing students with challenging, thought-provoking courses grounded in the humanities and the social sciences, students will be prepared to pursue academic and professional goals in the fields of social services, community advocacy, conflict resolution, law, and education. Using a curriculum that adheres to state and national standards – and emphasizes issues of moral and responsible citizenship – students within the CCC Pathway will be prepared to participate in all aspects of our civic democratic structures. Pathway students will have requirements to fulfill each semester of their junior and senior year. During their senior year, students in the CCC Pathway will participate in a senior seminar and an internship, designed to prepare students for college, careers, and active citizenship.

- The CCC Pathway strives to provide a respectful learning community that allows students to realize their potential as compassionate and knowledgeable citizens who impact and support communities both locally and globally.
- The CCC Pathway nurtures the following critical skills in students before graduation:
 - Enhanced critical thinking, literacy, research, and technological skills;
 - Deep awareness of local, national, and global issues and cultural diversity;
 - Understanding of the complexity of social action and reaction;
 - Recognition of the consequences of individual choice in society; and,
 - The ability to apply coursework to real life experiences in the community.

CIVICS, CITIZENSHIP & COMMUNITIES PATHWAY COURSES:

Required Courses:

Grade 11:

4382	We the People: The Citizen and the Constitution – Honors (semester 1)
4563	The City of Lowell and American Industrialization and Immigration – Honors

Grade 12:

4570	Seminar on American Diversity - Honors
4571	Internship and Capstone Project in CCC – Honors

Recommended Electives:

0542	Race and Ethnicity and the Written Word – Honors
0544	Literature of the Holocaust – Honors
4371	Education in American – Honors
4431 or 4435	Introduction to Sociology – H or DE (MCC)
4524	Cambodia: Culture and Conflict – Honors
4513	Topics in Facing History and Ourselves – Honors
4541/4542	Political Science – Honors
4566	Gender and Identity – Honors

***All Pathway students must earn a minimum of 10 credits in the Civics, Citizenship, and Communities Pathway courses to receive the designation of Civics, Citizenship, and Communities Concentration status on the student's final transcript.**

COMMUNICATIONS PATHWAY (STEM)

The Communications Pathway provides an opportunity for students to explore the art of communication, with an emphasis on inquiry, reading, writing, research, and presentation skills. Advanced-level multimedia instruction will include journalism, video production, graphic design and digital photography. The Communications Pathway is not just textbook learning; students generate finished products such as video documentaries, magazines, and live-aired television. Students who participate in the TV Production courses will have the opportunity to engage in pre-production, production, and post-production processes as well as participate in the creation of the Red Raider Report, which airs at LHS daily.

Communications/Media Core Courses:

7747/7748	Introduction to Graphic Design - Honors
7758/7759	Advanced Graphic Design – Honors
7825/7826	Introduction Digital Media Production – Honors
7829/7830	Advanced Digital Media Production – Honors
7833/7834	TV Newsroom: The Live Broadcast/The Raider Report - Honors
7871	Film, Society and Video (Dual Enrollment) - Advanced
7715/7716	Digital Photography - Honors
7363/7364	Digital Audio Production - Honors
7773	Animation - Honors

Related Media Electives:

4568	Digital Journalism - Honors
0523	Public Speaking, Persuasion and Presentations - College
0524	Public Speaking, Persuasion and Presentations – Honors

***All Pathway students must earn a minimum of 10 credits in Communications Pathway courses to receive the designation of Communications Concentration status on the student's final transcript.**

CULINARY ARTS PATHWAY

The Culinary Arts Department is designed for students interested in careers within the Food Service Industry, one of the largest and fastest growing industries in the world. This Pathway is ideally a three-year program that can be tailored to one or two years on an individual basis. This Pathway integrates a rigorous academic curriculum, but it also provides “hands-on” training in a student-operated restaurant. Students are exposed to different baking and cooking techniques, a variety of table services, and customer relations. This Pathway provides a professional environment so students will culminate a basic, well-rounded education in Culinary Arts. All students complete the program with a portfolio and enough experience to secure an entry-level position within the Food Service Industry or pursue careers through higher education. Students also have the opportunity to train and test for the ServeSafe Certification.

Restaurant-Based Courses:

Year One:

5311/5312 Culinary Arts Beginners - Honors

Year Two:

5313/5314 Culinary Arts Intermediate - Honors

Year Three:

5315/5316 Culinary Arts Advanced - Honors

Related Food Electives (Optional): (1 semester courses)

5085	The Science of Cooking - College
5087	Nutrition and Dietary Choices - College
5086	Regional Cuisine - College
5088	International Foods - College

***Culinary Pathway students must earn a minimum of 20 credits in Restaurant-Based Culinary Arts courses to receive the designation of Culinary Arts Concentration status on the student’s final transcript.**

EDUCATION PATHWAY

The Education Pathway is dedicated to opening up the world of education to students who are drawn to teaching. Within the Pathway, students will examine the various ways in which public education has developed, how it is practiced across different disciplines, what types of jobs exist in education, and what the day to day reality of being a teacher or other education professional looks like. In this Pathway, students will learn that there are many different approaches to education, as well as many different settings (public, private, parochial, and homeschooling) in which education exists. The Pathway is closely partnered with UML's School of Education; students will participate in UML's program through special events on and off the UML campus. Students who successfully complete the two junior-year required courses will be able to participate in the Senior Education Pathway Internship, which consists of in-the-classroom experience at an elementary school in the Lowell Public Schools. Further, Education Pathway students will have a special liaison to help them with the UML application, if they intend to apply to the undergraduate education program at UML.

- *The Education Pathway strives to prepare students to be educators in a diverse urban environment, like Lowell, respectful of the many different ways in which students encounter the educational process. Its outlook is progressive and cross-disciplinary. As much as possible, core courses are taught as co-constructed experiences for Education Pathway students.*
 - *The Education Pathway nurtures the following critical skills in students before graduation*
 - *Enhanced critical thinking, literacy, research, and technological skills*
 - *Deep awareness of pedagogical trends and practical instructional techniques*
 - *Understanding of the complexity and diversity of the human experience*
 - *Recognition of the fundamental role that public education plays in the basic fabric of society*
 - *The ability to apply coursework to real life experiences in the classroom*

EDUCATION PATHWAY COURSES:

Grade 11:

4371	Education in America - H (Required)
3621	STEM Education - H (Required)
4524	Intro to Sociology - H/DE (Recommended)
4431	Intro to Psychology - H/DE (Recommended)

Grade 12:

4570	Seminar on American Diversity - H (Required)
4572	Internship and Capstone Project in Education - H (Required)
4452	Early Childhood and Adolescent Behavior & Development - H (Recommended)
0567	Gender in Literature - H (Recommended)

Related Electives (Optional):

0569/0570	Psychology & Literature - C/H
4453	Childhood & Adolescent Development - H
4513	Facing History & Ourselves - H
0542	Race and Ethnicity and the Written Word - H
4563	Lowell: Immigration and Industrialization - H

***Education Pathway students must earn a minimum of 10 credits in the above courses to receive the designation of Education Concentration status on the student's final transcript.**

ENGINEERING PATHWAY (STEM)

The Lowell High School Engineering Pathway provides students the opportunity to investigate engineering-related courses for career exploration and future interest in engineering. Students are provided a combination of academic and hands-on activities to build their subject knowledge and develop the skills of teamwork, verbal and written communication and project management.

Articulation: Students may receive college credits upon enrolling at colleges that acknowledge articulation with the LHS course. Eligibility to receive college credit varies by the specific agreement with each college.

ENGINEERING PATHWAY COURSE OFFERINGS:

Electives for grades 10, 11 and 12:

3953/3954	Robotics (LS) - Honors
3945/3946	Architectural Design (LS) - Honors
3911/3912	PLTW- Introduction to Engineering Design (LS) - Honors
3921/3922	PLTW- Principles of Engineering (LS) - Honors

Grade 12 Electives:

3971	Introduction to Engineering (DE-MCC) (LS) - Advanced
3978	Engineering Internship - Honors - Strongly Recommended <i>*Students must first complete 10 credits in the Engineering Pathway courses before enrolling in the Engineering Externship</i>

***All Pathway students must earn a minimum of 10 credits in Engineering Pathway courses to receive the designation of Engineering Concentration status on the student's final transcript.**

ENVIRONMENTAL SUSTAINABILITY PATHWAY

The Environmental Sustainability Pathway at Lowell High School provides an interdisciplinary approach to the study of human interactions with the environment. The goal of the Environmental Sustainability Pathway is to equip students with the knowledge, intellectual tools and learning experiences that are necessary to understand the causes and consequences of our environmental challenges and to function as highly responsible and engaged citizens. The Environmental Sustainability Pathway seeks to develop in students the creative problem solving skills necessary to design and develop a more sustainable relationship between humans and the rest of the natural world, by guiding students through an exploration of environmental resources, problems, and solutions. This pathway also offers students a unique opportunity to gain essential classroom knowledge along with practical industry experience within the growing field of Clean Energy.

ENVIRONMENTAL SUSTAINABILITY PATHWAY COURSES:

Survey Courses:

- 3535 ESS: Geology- Honors
- 3537 ESS: Oceanography- Honors
- 3536 ESS: Meteorology-Honors
- 3735 Environmental Studies (DE- MCC) (LS) - Advanced

Grade 11 & 12 Concentrated Courses:

- 3552 Sustainability Career Explorations A- Honors
- 3553 Sustainability Career Explorations B- Honors
**After completion of Sustainability Career Explorations A & B, students will be eligible to participate in a spring/summer internship in the field of Sustainability.*

***Environmental Sustainability Pathway students must earn a minimum of 10 credits in the above courses to receive the designation of Environmental Sustainability Concentration status on the student's final transcript.**

***All Pathway students must earn a minimum of 10 credits in Environmental Sustainability Pathway courses to receive the designation of Environmental Sustainability Concentration status on the student's final transcript.**

FINE ARTS PATHWAY

The mission of the Fine Arts Pathway is to provide all students with a wide variety of high quality artistic experiences in Dance, Music, Theater and Visual Arts and to encourage creativity, the development of a unique artistic voice, and the enthusiastic pursuit of excellence in the Arts.

Performing Arts Courses

Instrumental:

7139/7140 Band

7131/7132 Guitar & Music Theory

Choral:

7341/7342 Concert Chorus

7301/7302 Show Choir

Dance:

7905/7906 Dance 1/Dance 2

7907/7908 Dance 3/Dance 4*

7953/7954 Advanced Dance Studies*

7983/7984 Senior Dance Project*

*Articulated Course with MCC

Theater:

7411 Drama 1: Fundamentals of Acting

7412 Drama 2: The Technical Theater

Visual Arts Courses:

7513/7514 Intro to Studio Art
7523/7524 Intermediate Studio Art
7543/7544 Studio Art Portfolio

7591/7592 Drawing
7621/7622 Sculpture

7715/7716 Digital Photography
7773 Animation

7747/7748 Intro to Graphic Design
7758/7759 Advanced Graphic Design

7825/7826 Introduction to Digital Media Production
7829/7830 Advanced Digital Media Production
7871 Film, Society and Video (DE)
7872 Film, Society and Video

7715/7716 Digital Photography
7363/7364 Digital Audio Production

***All Pathway students must earn a minimum of 10 credits in Fine Arts Pathway courses to receive the designation of Fine Arts Concentration status on the student's final transcript.**

HEALTH & BIOSCIENCE PATHWAY (STEM)

The Health and Bioscience Pathway is designed for students with an interest in the fields of allied health and/or the emerging field of biotechnology. The Health and Bioscience Pathway offers students a unique opportunity to gain essential classroom knowledge and practical experience within the local medical or biotechnological community. Courses taken in this Pathway will provide students the foundation of knowledge necessary to enter into college majors in the areas of nursing, medicine, biotechnology and other diversified health fields. The course of study culminates senior year with an externship in the Lowell community for eligible Pathway students.

HEALTH & BIOSCIENCE PATHWAY COURSES:

Survey Courses:

3783	Microbiology (LS)
9023/9024	Medical Terminology & Body Systems
9042	Careers in Health & Bioscience
9062	Current Health Issues
3541	Introduction to Anatomy
3543/3544	Anatomy & Physiology (LS)
9052	Medical Law & Ethics
3548	Genetics (LS)
9082	Nutrition, Disease, and You

12th Grade Concentrated Courses:

9092	Senior Internship (Strongly Recommended)
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*Students must first complete 10 credits in the Health & Bioscience Pathway courses before enrolling in the Health & Bioscience Internship

***All Pathway students must earn a minimum of 10 credits in Health & Bioscience Pathway courses to receive the designation of Health & Bioscience Concentration status on the student's final transcript.**

LHS INTERNSHIP PROGRAM

At Lowell High School, the Internship experience assists students in furthering their education and knowledge within the “real world”. The main focus is to ensure that all students gain experience in the work force and become more informed about possible career choices. Another focus is to help students be more independent and prepare them for the responsibilities of either the college experience or the world of work. The goal of the program is to provide students with an experience that will help shape their decisions regarding possible college majors and career direction.

There are many benefits of the Internship experience:

Student Benefits:

- Connects classroom to real world experience
- Helps define areas of interest, educational goals and future plans
- Acquires knowledge and skills about careers and labor market
- Opportunity to understand work place etiquette and practice communication skills
- Builds confidence, responsibility and self-advocacy skills
- Creates network of professionals for future internship and employment opportunities

Employer Benefits:

- Find future employees
- Help support the well -being of the local community
- Test drive talent
- Assistance with projects and office support
- Share knowledge and experience
- Train future leaders
- Inspire youth from the community

Preparation before site placement

- All students will go through a series of workshops that will prepare them for placement prior to internship experience as listed below.
- Resume preparation
- Interview skills
- Dress for success workshop
- Workplace etiquette
- Business communication
- Coursework exposure to related industry

LHS INTERNSHIP PROGRAM COMMUNITY PARTNERS

Students have the opportunities, thank to our community partners, to experience internships at a number of different organizations across the city of Lowell, including:

Anne Sullivan Center	McAvinnue Elementary School
Career Center of Lowell	Mental Health Association of Greater Lowell
Chelmsford Animal Hospital	Mill City Environmental
Coalition for a Better Acre	MITRE
Colleen Creegan TV Studio	Murkland Elementary School
Community Teamworks, Inc.	M2D2
Congressional Office of Niki Tsongas	New England Neurological Care
Courtyard Restaurant	North Shore Merrimack Valley Legal Services
Cultural Organization of Lowell	Rapid Microbiosystems
D'Youville Nursing Home	SCORE Mediation Program
Enterprise Bank	Trinity Ambulance
Greater Lowell Engineering Associates	Therafit Physical Therapy
International Institute	Town and Country Nursing Home
Jeanne D'Arc	Tsongas Center of Industrial History
Lowell City Hall	University of Massachusetts at Lowell
Lowell Community Health Center	Visiting Nurse Association of Greater Lowell
Lowell Dentistry for Children	VNA Nursing Association
Lowell General Hospital	Watermark Environmental
Lowell National Parks	Wingate Nursing Home
Lowell Police Department	Xenith Corporation
MACOM	WCAP

If you are interested in getting more information about the Internship program or you know another community partner who would be willing to host an intern, please contact: Lynn Blouin, Career Relations Counselor, at (978) 970-3377.

GUIDANCE

GRADUATION REQUIREMENTS

To obtain a diploma of graduation from Lowell High School, each student must satisfy the following requirements:

- Must have at least four (4) years' attendance at the high school level.
- Must pass ten (10) credits in U. S. History.
- Must pass twenty (20) credits in English.
- Must pass ten (10) credits in Mathematics.
 - Students need to pass one full year of Algebra and one full year of Geometry.
- Must pass ten (10) credits in Natural or Physical Science.
- Must pass ten (10) credits Physical Education.
 - AFJROTC, Dance, Show Choir or Band may be substituted each year for this requirement.
 - This requirement may be waived only by the Head of School for documented medical excuse, for critical course conflicts, or for other extenuating circumstances.
- Must pass five (5) credits in Health/Wellness.
 - Must select Health Education A in the Ninth (9th) grade and Health Education B in the tenth (10th) grade.
 - Health Education A or B can be postponed with permission of the Guidance Counselor.
 - Both health courses (2.5 credits each) must be passed for a total of five (5) credits. AFJROTC can substitute for Health.
- Must fulfill the standard requirement of earning at least 90 credits, of which at least 20 credits must be earned in the senior year.
- Must pass the MCAS exams in ELA, Mathematics and Science.

PROMOTION POLICY

Students must be promoted from the eighth grade to enter Lowell High School. In order to move to the next grade level, students must earn the following credits:

- To grade 10 - 20 credits.
- To grade 11 - 40 credits.
- To grade 12 - 60 credits.

MASSACHUSETTS STATE COLLEGES AND UNIVERSITIES MINIMUM COLLEGE ADMISSIONS REQUIREMENTS

The admissions standards for the state colleges and universities emphasize a strong academic high school background so that students enter college ready to learn. These standards represent minimum requirements; meeting them does not guarantee admission, since campus officials consider a wide range of factors in admissions decisions. Students must have fulfilled all requirements for the high school diploma or its equivalent upon enrollment. It is important to note that admissions standards for the state's community colleges differ. Community colleges may admit any high school graduate or GED recipient.

Subject	Requirements for Entering College Freshman
English	4 Years
Mathematics	4 Years (Algebra 1, Algebra 2 and Geometry or Trigonometry, or comparable coursework.) including mathematics during the final year of high school
Sciences	3 years (from Natural Science and/or Physical Science and/or Technology/Engineering), including 3 courses with laboratory work
Social Sciences	2 years (including 1 year in U.S. History)
Foreign Language	2 years (in a single language)
Electives	2 years (from the above subjects or from the Arts & Humanities or Computer Sciences)

MASSCORE

What is MassCore?

MassCore is a state recommended, rigorous program of study that aligns high school coursework with college and workforce expectations. The recommended program of studies includes:

How Many?	Which Subjects?
4 years	English
4 years	Math
3 years	Lab-based Science
3 years	History/Social Science
2 years	The same foreign language
1 year	The Arts
5 additional “core” courses	Business education, career and technical education, health, technology or any other above subject area
additional learning opportunities including	<ul style="list-style-type: none"> • AP classes • Dual Enrollment • Senior Project/Capstone coursework • Online courses for high school or college credit • Service or Work-Based Learning

MassCore should be considered to be a critical component of a student’s overall high school experience and may also include work-based or community service learning, athletics, extra-curricular activities and additional learning opportunities that help prepare students for their future.

Why MassCore?

Challenging Courses = Big Financial Rewards

Graduates of four year colleges earn an average of \$1.4 million more over a lifetime than high school drop outs.

Preparation for College Success

It’s not just about getting in – it is about finishing.

What Employers Want

Employers expect you to arrive with essential workplace skills, including speaking and writing clearly, analyzing information, conducting research, and solving complex problems.

More Career Options

Good jobs require education beyond high school. MassCore gives you more options and more opportunities to find a career with a real future.



LOWELL HIGH SCHOOL **CORE VALUES**

- RESPONSIBILITY**
- INTEGRITY**
- DETERMINATION**
- ENGAGEMENT**
- RESPECT**